LABOR ARCHEOLOGY OF THE INDUSTRIAL ERA

Identifying and Evaluating Nationally Significant Archeological Sites of Labor in the Industrial Era in the United States

A National Historic Landmarks Theme Study

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E. Statement of Historic Contexts

In 1991 Congress directed the National Park Service to undertake a theme study on American Labor History (PL 102-101). The Labor History Theme Study (Arnesen et al. 2003) identified a number of potential National Historic Landmarks (NHLs); however, archeological properties were not explicitly considered in the research carried out for that theme study. To address this omission, a Multiple Property Submission (MPS) cover document on labor archeology was begun in 1997 and has undergone several revisions by several different authors since that time.[i] The theme study on labor archeology works in conjunction with the Labor History Theme Study; however, the Labor Archeology Theme Study is not an addendum to the labor history. Archeology can offer different research avenues and insights to the study of labor in the industrial era.

The last few centuries, starting in the 1790s with the beginning of the industrial period to the continuance of industrial production in the present, are specifically addressed here. Pre-industrial labor is discussed briefly only to provide a context for comparison and show changes brought about with industrial labor. A context for labor archeology that addresses work-related

[i] Theresa Solury and David Gadsby prepared earlier drafts of this document. The Labor Archeology of the Industrial Era theme study builds on their earlier work. This theme study also draws from the format and language of other theme studies, especially The Earliest Americans Theme Study.

sites prior to and during European colonization and settlement remains to be written and is beyond the purview of this study. As summarized in **Section H**, the survey for potential labor archeology NHLs largely has been restricted to existing National Register of Historic Places (NRHP) and NHL properties. Lists of the properties recommended and assessed as well as applicable MPS cover documents are included in the appendices. Other archeological properties that meet the Criteria for NHL designation exist but have not been evaluated.

This MPS Theme Study will serve as a concise reference for context, research design, and examples of properties related to the archeology of labor history or labor archeology of the industrial era and can be used to assist in the identification, evaluation, and documentation of archeological properties for designation as NHLs as well as listings in the NRHP. The research on the context section consulted a wide variety of resources such as site reports from around the country (e.g., Adams et al. 1981; Hardesty et al. 1994) and texts on work culture (e.g., Gutman 1976; Nash 1979, 1989). These resources provided theoretical concepts on work and work cultures as well as comparable data on work sites throughout the nation. Major research domains were derived from this research to illustrate possible ways of reviewing and assessing archeological properties with labor significance. When coupled with the applicable domains, the National Park Service's Thematic Framework (National Park Service [NPS] 1996) illustrates relevant research questions that should guide assessments of potential NHL and NHRP eligibility.

Introduction

Labor, or at least work, pervades the daily life of all people. Labor concerns the production of goods or commodities within the industrial system and the reproduction of the human and material resources necessary for industry. Workers under the industrial arrangement, as defined in this study, are people who sell their own labor power in order to make a living, but have limited control over the conditions under which they exercise that power. This particular dynamic, characterized by social relations interconnected with the commodification of work, deeply affected the lives, practices, and identities of all Americans.

This theme study is meant to provide a basic framework for the nomination of archeological sites that are nationally significant for their ability to yield or are likely to yield information of major scientific importance about labor within the context of the industrial period of United States history beginning in the late eighteenth century and continuing into the present. National Historic Landmark Criteria reflect a rigorous evaluative framework appropriate for properties possessing the potential to contain information of the highest level of national significance. NHLs designated under the Labor Archeology Theme Study must be acknowledged to be among the nation's most significant properties associated with the context of workers and worker's lives as situated within the context of industrial labor systems. To be applicable, the relevant aspects of a property must have occurred between the late eighteenth century and the present, or specifically present a unique or early example of the work cultures that would later accompany changes in industrial production. Furthermore, the properties must be located within the United States and its territories and possessions.

Labor archeology properties for the NHL program are nationally significant sites where workers extracted resources for industrial production, sites where workers processed and distributed those resources, and places and structures associated with industry. Because the relationships that labor produces are understood to pervade all social forms, the homes of men, women, and children who performed, and in some cases continue to perform, these forms of labor and their communities are also relevant to this study. Thus, data on labor archeology may be found at any property whose major contributing features are associated with industrial labor. These properties may include a range of different industrial sites from factories, workshops, and wharves to canals, tenements, and union halls. The individual merits of each property, such as site integrity, uniqueness, and ability to answer research questions of national importance (see **Section F** for property types, NHL and NHRP Criteria, and proposed research questions) play a significant role in determining whether properties are appropriate within the context of this theme study

The study does exclude properties where enslaved labor was the primary mode of work, because plantation and industrial slavery sites constitute a body of archeological work so large and important as to require separate treatment. Likewise, pre-industrial labor is not discussed though the general transition to industrial labor is highlighted with a brief discussion of sites during this

period to provide a historical context of the changes that accompanied this transition.

Labor History, Industrial Archeology, and Labor Archeology

The study of labor and industrial labor are represented by the fields of labor history, labor archeology, and industrial archeology. A brief discussion of the field of labor archeology illustrates its theoretical foundations along with some current trends in theory and practice. Following this brief section on the history of labor studies and the increasing interrelation of these fields is a brief historic overview of labor systems, work practices, and work cultures in the United States from the beginning of industrialization to recent times organized around four major research domains. While this section does not constitute a thorough examination or description of all aspects of American labor history or labor archeology, the theme study in general is intended to serve as a framework for evaluating the national significance of the archeology of labor sites and offer a sample of nationally and potentially nationally significant resources in the United States and provide enough context for such an evaluation.

Traditional Labor History

Labor history is usually divided into two primary schools of thought: traditional, movement-based labor history and the "new" labor history. Traditional labor history in the United States is grounded in economic history and traces its roots to John R. Commons' Wisconsin School and George E. Barnett's students at Johns Hopkins University (Brody 1993:6). This tradition approaches the study of labor as a study of trade unionism and collective bargaining (Brody 1979:111). Studies by these labor historians tend to focus on the institutional aspects of work, such as union history and development (Brody 1985:27; Morris 1985:21). This traditional approach "adopted a grand narrative form in which heroic workers and their unions marched, bent but not bowed, toward a better future, culminating in the New Deal and federal labor law reforms" (Arnesen et al. 2003:3).

Changing theoretical approaches and analytical methods in labor history in the 1960s and 1970s prompted some scholars to expand labor history's research areas. While studies by early labor historians are excellent accounts of the development of the labor movement as a united entity, they provide little information on the behavior and reasoning of workers and employers (Brody

1979:112). For this reason, many later labor historians began to shift away from traditional labor history and toward the study of working-class culture and movements.

New Labor History

During the 1970s, many scholars, following in the groundbreaking footsteps of British historian E.P. Thompson (1966), shifted their focus of study away from protests and institutions to examine the worker as an individual, not an aggregate (e.g., Dubofsky and Van Tine 1986; Gutman 1976; Montgomery 1979:6). Thompson's work examined the ways workers came to view themselves as a group. Subsequent works of the "new" labor history have moved toward the experiences of workers and away from the events acting on workers (Brody 1979:114). This more recent turn toward social history has produced analytical studies in addition to the descriptive studies conducted by traditional labor historians (Morris 1985:23). Ethnic histories, labor mobility, communication, community studies, worker experiences, urban histories, women and minority studies, and political behavior are all common avenues of investigation for "new" labor historians (Brody 1979:115-117). More recently, "movement historians" such as James Green (2000) have begun to use worker heritage as an organizing tool while others (Roediger 1999) have examined the intersections of race, ethnicity, and gender with worker's identity.

The contemporary field of labor history is built upon a scholarly heritage that includes not only a particularistic history of the labor movement, but also an increasingly sophisticated use of social theory. While a clear distinction between both styles of labor history is apparent, it is not necessary that these two styles be considered fully separate. This theme study proposes that traditional and "new" labor histories need not be mutually exclusive.

The study of labor's history has also received scholarly contribution from many other disciplines. Contemporaries of the new labor historians, historical anthropologists such as Eric Wolf (1982) and Sidney Mintz (1974), began to explore the consequences of increasingly globalized trade and industrial labor and their effects on indigenous people. Other anthropologists (Wallace 1978) studied the formation of industrial communities as well as the experiences of women in the labor force (Di Leonardo 1985; Lamphere 1985) and the impacts of neoliberal labor regimes on women around the world (Ong 2006). Together, the different

research questions posed by labor history and related fields present a fuller conceptualization of labor history and offer a range of avenues from which to study its many manifestations and implications for the present.

Industrial Archeology

The historical archeology of industrial sites represents an independent discipline with an intellectual genealogy separate from labor history. The first archeologists to study labor explicitly did so within the context of an archeological subfield known as industrial archeology, a term coined in 1955 by British archeologist Michael Rix (Rix 1955; Symonds 2005:37). Industrial archeologists studied the material remains of the industrial revolution and industrial era (Foley 1968:66; Hudson 1966, 1979). The motivation of these preservationists was initially to document the extant remains of the industrial revolution from the vantage point of post-industrial economies. Beginning in the late 1950s and 1960s, industrial archeologists began a project dedicated to recording the physical structures of work places through the examination of factory designs, layouts, and technology systems; a material history of technology and work processes (Hudson 1979). In the United States, industrial archeologists documented features such as factories, mills, foundries, bridges, railways, kilns, and mines.

The advent of the discipline was significant as it encouraged archeologists, for the first time, to study fairly recent, standing, and very visible structures, creating an archeological and historical record for a quickly disappearing and under-researched set of resources and applying archeological methods and theories to extant structures (Vogel 1969:90-91). Industrial archeology places primacy on material and technological developments rather than work-related issues and culture. Because the traditional concern of industrial archeology is the creation of a thorough record of the structure and layout of industrial buildings, space, and technology, it offered little information on the social lives of workers or their experiences of the emergence of the industrial system of labor. In historical archeology, there has been a call to include labor, not only in the context of industrial or work-related sites, but in all sites that reflect the daily lives of workers and their families (Shackel 2009). Through this work, it is now accepted that the changes in technology, work processes, and social relations that came along with the industrial era have significantly affected the identities, environmental and health conditions, social

relationships, and other aspects of the lives of workers and their families.

Labor Archeology

In recent decades, historical archeologists have begun to examine sites associated with industrial workers and their labor from an anthropological perspective (such as Adams et al. 1981; Nassaney and Abell 2000; Shackel 1994). American labor archeology, which has intellectual roots in North American anthropological archeology rather than British or American industrial archeology or the Historic American Engineering Record (HAER), expands some of the scope of industrial archeology to include pre-industrial and modern society. In keeping with the "new" labor history, American labor archeology also focuses on the factors that have affected the experiences and social relations of workers beginning in the late eighteenth century with the onset of industrial systems of labor. In recent years many archaeologists have begun to examine daily life and labor in the United States (Beaudry and Mrozowski 1989c; Brashler 1991; Camp 2011; Costello 1998; Shackel 1996, 2000; Van Bueren 2002b; Walker 2008a; Wegars 1991; Wood 2002a; Workman et al. 1994).

Another factor that distinguishes labor archeology from industrial archeology is the introduction of more varied issue-based studies. Gender, racialization and ethnic studies (Voss 2005) are three such areas of research currently expanding in the archeological field (for example see Beaudry and Mrozowski 1989b; Orser 2007; Schuyler 1980; Scott 1994). Although more comparative work needs to be done between sites and the individual histories of workers and communities in order to develop a nuanced understanding of broader patterns of labor organization, movements, and industrial labor, attention to identity and everyday experiences allows archeologists to understand how workers negotiated social, political, and economic contexts on a daily basis.

Practitioners of industrial archeology and labor archeology have formulated different sets of research questions and may hold divergent goals; however, each approach addresses important facets of industrial labor's past. Both Eleanor Casella (2005:3) and James Symonds (2005) note that since the 1990s, industrial archeologists have increasingly engaged with social theory, which has expanded their focus beyond their particularist roots. For instance, Ian Mellor (2005)

applies network theory to cotton textile mill designs to understand how the buildings conditioned workers' behavior, especially their communication habits. Ray Riley (2005) has also noted that industrial archeologists must consider their sites as parts of larger regional and global systems. When taken together, the archeology of industrial sites and the social archeology of labor possess the potential to form a holistic view of work processes, patterns, and experiences.

Labor archeology, itself, presents a different approach than that found in other disciplines. First, labor archeology is an important way to learn about a group of people who, for a variety of reasons, seldom left historical records of their own lives (Gordon and Malone 1994:13-16). Second, the material culture of industrial labor also affords archeologists the ability to address different research questions than might be found in the field of labor history. Additionally, within the discipline of historical archeology, methodologies that promote public engagement in explorations of heritage have developed as a major goal of archeological research in recent years (Little 2007; Shackel and Little 2007). Labor, as a practice that permeates social life in the past as much as the present and that is intrinsically connected to important broad social questions about identities, practices, politics and economy, is a topic that can serve as a touchstone for a shared exploration of past and present (Shackel 2004, 2009). This focus is certainly the case in terms of difficult, neglected, or forgotten aspects of American history. For instance, labor history has been promoted as a way for contemporary workers to develop and explore their unique heritage and to promote equity and fairness in the context of present social changes (Green 2000). The Ludlow project is one example of this sort of participatory methodology applied in the context of labor archeology (Ludlow Collective 2001; Saitta 2007; Wood 2002b). The project examined the development of class solidarity amongst the participants of the Colorado Coalfield Strike of 1913-1914 using a collaborative approach that engaged the present-day labor movement in a neighboring community.

Research Domains and Historic Contexts in Labor Archeology of the Industrial Era

The history of labor in the industrial era represents a large area of research and a long time span for the field of archeology. The Labor Archeology of the Industrial Era theme study uses four research domains to provide a grouping of research questions to focus on regionally and

nationally important aspects of the industrial era of archeological properties. In **Section F**, these domains are also linked to applicable property types, research questions, and the appropriate Thematic Framework themes and topics. A thorough chronological history of labor in the industrial era is not included in this document as the Labor History Theme Study has already detailed such a history. The following section details the four domains, their context, and the information they can provide. While these trends are discussed separately in an effort to highlight specific research questions, these domains are intricately interconnected and attention should be paid to the dynamics of this interrelation.

Labor Processes

The industrial era was characterized by a shift in work and work relations which came to impact almost all aspects of social life. Beginning in England in the second half of the eighteenth century, mercantilism began to give way to a new mode of production, spurred by the investment of capital and inventions which led to predominance of machine production (Wolf 1982:266). This transition to industrial capitalism entailed a new way of life that was painfully institutionalized over time (Gutman 1987:71). Since changes in labor processes of the industrial era affected life both in and outside of the workplace, labor archeology of the industrial era directs its questions to archeological contexts of both work and everyday life.

Labor and the Colonial Era

Although the colonial labor system is not covered in this theme study, a brief consideration of pre-industrial labor helps to frame the context for industrial labor and the changes that occurred during this transition. The colonial period in the United States and elsewhere saw the introduction of new labor systems and the adaptation of traditional systems to new environments. European settlers constructed farms, workshops, and stores in the colonies but continuing labor shortages inhibited the development of a mature economy. In order to address labor shortages, colonists and colonial governments enslaved native populations or imported slaves, servants, and indentured servants (Boris and Lichtenstein 1991:33).

During this period prior to the industrial era, individual craftspeople, artisans, and their families produced most commodities in a system known as the artisan system of labor. This system of

labor was characterized by small-scale production, local markets, and skilled craftsmanship with work centered around the home or the community. Homes often served as the earliest production centers. Artisans generally owned the tools and materials necessary to ply their trade and had a great deal of control over the hours and conditions of their labor. Men, and to a smaller degree, women produced or processed goods on a limited scale as skilled craftsmen, sometimes taking on apprentices or assistants who exchanged their labor for craft training, and room and board (Arnesen et al. 2003). Most craft and artisan production thus was done by independent producers, sometimes aided by family members, apprentices, journeymen, or others (Gordon et al. 1982:54-55).

Early agricultural operations were centered around farm units with little distinction between home and field. Households performed farm work year round, and family members provided the primary source of labor. As the colonies became more established, merchant-farmers developed larger plantations to produce goods on a greater commercial scale. Such operations required a large and inexpensive labor force and often relied upon unfree labor—enslaved workers and indentured servants—as well as tenants, settled yeomen, migrants, women, and children (Arnesen et al. 2003; Gibb and King 1991). Archeologists like Mark Groover (2008) have examined the evolution and impact of changes to agricultural operations. Groover (2008) identified the material signature of changes to farm practices and the switch to commercial farming from the colonial period to the present documenting the changes to rural households and social life.

Colonial Era work practices, including varieties of enslaved, coerced, and indebted labor as well as artisan or craft-based systems, set the stage for a new economic system beginning in the late eighteenth century and intensifying in the middle of the nineteenth century. While this transition followed regional variations, it is well accepted that an overall change in many aspects of the economy, including the social relationships between labor and capital, were widespread by this time.

Industrial Labor

The transition from the artisan system to the factory system unfolded gradually in the United States. This movement relates to other major themes of the period: changing conditions and hours of labor, formation of a factory culture, and transformative technological developments, all of which affected workers' attitudes, lifestyles, and health. Generally, the artisan system dominated from the 1700s to the 1860s, though factory discipline began to be implemented in the first quarter of the nineteenth century (Boris and Lichtenstein 1991:84-85). Textile mills, which required large equipment and water-power, appear to have adopted the factory system earliest. For instance, Samuel Slater, a British textile entrepreneur, opened his mill in Pawtucket, Rhode Island in 1793, employing entire families in the work process. Slater's system included a system of tenant farms around the mills to house the working families (Gordon and Malone 1994; Shackel 2009:24-25). Likewise, the Union Manufacturing Company in Oella, Maryland began production shortly after 1808 (Clendenning 1992:251-252).

The introduction of the industrial system, which often shifted production from the home to a separate manufacturing site, meant that workers lost power over their tools and equipment and lost the ability to set their own prices or sell their own goods. Instead, industrial workers sold their labor-power at prices set by factory owners. In this system, labor was coordinated under a single technical system, often under the same roof. This system involved minimizing the importance of craft skills on the part of laborers as compared to that of the artisan system and an emphasis on the techniques of labor and time discipline. The new mode of manufacture saw the cheapening and regularization as well as the consolidation of control over labor regimes (Gordon et al. 1982:58). Work and social life became disciplined to synchronize with the repetitive and rhythmic operations of increasingly mechanized processes. Mechanization increasingly displaced skilled labor. Machines also meant the loss of ability to sell acquired skills at the same rate of remuneration as prior to the introduction of the machine (Barnett 1926:117). Still, the process of deskilling the labor force was gradual and uneven across the different industries (Leary 1986:38). On the whole, from the late eighteenth to the middle of the nineteenth century, labor conditions generally deteriorated in the United States (Kuczynski 1973:33).

The United States saw significant changes including increasing industrialization during the period from 1826 to 1861. The population of the United States in 1826 is estimated to have been around 11,000,000; it tripled to 33,000,000 by time of the Civil War (Smith 1981:xi). The magnitude of everything from railroads and immigration to farm production increased (Smith 1981:xi). During this period, wage labor became the dominant manner of organizing production and economic affairs passed from the community as a whole to a special class (Gordon et al. 1982:3; Ware 1964:xi). Although the nation was still agrarian and half or more of adults were self-employed by the end of the Civil War, the nation was quickly transitioning to a country where the majority of individuals worked for employers (Dubofsky 1996:2-3).

By the late nineteenth century the wage-labor relationship between employers and workers expanded and the United States can be said to have become a fully industrialized nation. From the 1870s until the beginning of the Second World War, a shift occurred in the organization of work and the structure of labor markets with more jobs reduced to common, semi-skilled labor and control of the labor process concentrated among foreman and their employers (Gordon et al. 1982:3). The Gilded Age, representing the beginning of this period, also saw the growth of middle-class professions like engineers and managers. At the same time, capital and production became increasingly concentrated (Beaud 1983:117; Kuczynski 1973:124).

This rapid industrialization was marked by shifts in industry and industrial practices. Around the turn of the century, science and efficiency, such as extolled by Frederick Taylor, led the drive for order and control in the workplace. Taylor was a champion of the scientific management of work, whereby scientific observations and methods were applied to the work process and labor relations (Dulles 1960:255-256; Montgomery 1987). Mechanization and centralization continued into the twentieth century with technological innovation further aiding the expansion of the unskilled labor force (Jones 1999:156; Rodgers 1978). From the 1920s onward, qualitative differences in the organization of work and labor markets were produced by political-economic forces (Gordon et al. 1982:3).

Archeology can study how pre-industrial patterns of work and social life changed or were realigned as a result of the introduction of industrial modes of production. The evolution of

industrial production from the first mills to the factories run under principles of scientific management and the assembly line had major ramifications in everyday life and their impact inside and outside of the workplace can be studied. These changes and the patterning of everyday life for all segments of the population are observable archeologically. The work of Paul Shackel and others (Lucas and Shackel 1994; Moyer and Shackel 2008; Palus and Shackel 2006; Shackel 1996) in the former industrial town of Harpers Ferry in West Virginia illustrates the movement from artisan to industrial systems and its effects. During the first part of the nineteenth century, Harpers Ferry underwent a transition from a small craft village to an industrial armory. This conversion was not at all times peaceful or comfortable. Shackel and his colleagues examined not only how technological changes affected everyday lives but also how they were subsequently memorialized in Harpers Ferry National Historical Park. Shackel's 1996 work, in particular, used a variety of archeological tools to examine the culture change brought on by new technological regimes. Other archeologists (such as Lucas 1994) have examined the changing meaning of household material culture within the context of the industrial transformation.

The process of transition to the discipline of the industrial order occurred in numerous craft production settings throughout the nineteenth and into the twentieth century. For example, Bradford Botwick and Debra McClane (2005) illustrate a similar conflict between craft producers and industrial workers in their examination of the landscapes of two Chesapeake Bay fishing villages. Botwick and McClane (2005) documented how small-scale oyster tongers resisted the onset of new fishing methods (dredging) and set the stage for a century-long conflict over oysters in the Chesapeake. These changes had consequences for domestic spaces as well as work places. Michael Nassaney and Marjorie Abel (2000:268), investigating the effects of deskilling in the cutlery industry in the Connecticut Valley, concluded that through the principles of scientific management "nineteenth-century elites used spatial organization to reinforce their positions of power and authority in the emergence of industrial capitalism." Providing data, which documents this transition at a nationally significant level, is a qualification for sites being considered candidates as NHLs; a point detailed further in **Section F**.

The transition to more industrialized systems of production, commerce, resource extraction,

commodity distribution, and agricultural production over time has increased the magnitude by which the environment is used and altered, and in turn, impacts people. Industry can be understood to include a "total system that includes raw materials, tools, operational sequences and skills, social and cultural knowledge, work coordination, and the historical context within which these parts and their interactions occur" (Hardesty and Little 2000: 97). Industrial processes produce entire landscapes or networks of landscapes that evolve out of the interactions of laborers and their families, labor processes, machines, and natural environments. In many cases, such as the waterpower supplying the mills in Lowell or extractive industries such as coal mines or quarries, local environmental resources were crucial for the success of industry and, as a result, often determined work locations. These processes and their demand for labor and its sustenance drove settlement patterns and land usage throughout the country during the industrial era.

Archeologists have detailed the relationship between the environment and workers' everyday lives. For instance, Stephen Mrozowski (2006) documented the transition from craft labor to industrial labor comparing residences and yards in Newport, Rhode Island, with residences and yards in Boott Mills in Lowell, Massachusetts. Using pollen and parasite remains, Mrozowski (2006) was able to compare the quality of and the creation and maintenance of these environments in relation to work structures. Viewing the environment as an integral part of daily life instead of just as a setting allows it to be studied in connection with changing systems of labor and accompanying social relations. Thus, archeological sites also contain data on the environment and its interface with industry and people and can shed light on a number of research questions related to its change throughout time. For example, how were different industrial operations dependent on harnessing or using natural resources? What was the impact to the environment in this relationship? What were the primary impacts, such as water pollution from tanning activities, or secondary impacts, such as lead pollution from smelting operations, and how did they affect the quality of life of workers and nearby or distant populations?

Labor and Identity

Participation, coercion, or aspiration within capitalist systems of labor drew different groups of people together for the purpose of work. Work is conducted socially among, between, and for

groups of people as they are drawn into, forced under, or live within the economic systems in which they become dependent as both producers and as consumers. As a result, labor relations are nationally significant in the way divisions of race, gender, and ethnicity are created, amplified, or maintained within the broader context of American social history and are used to structure or classify the population.

The expansion of industry in the nineteenth century required increasing amounts of labor. In the beginnings of the factory system, the labor requirement could be met with long hours similar to the working day in agriculture, initially drawing from women and children (Cohen 1979:8). Immigration and migration supplied the growth of industry and the construction of its infrastructure. Widening national markets and subsequent competition compelled manufacturers to seek to lower costs and reduce wages by employing cheap labor (Parmet 1981:16). This drive to lower costs led to social differentiation and segmentation of the workforce, pitting different groups against each other. As a result, conditions were created that prioritized production over workers' health and safety. Processes such as enslavement, migration, itinerancy, and the development of ethnic, race, and class enclaves are all important aspects to the relationship between labor and the movement of people. Archeology can explore the nature of these social relations and the relationship between them and between industry through their material and spatial signature.

Race and Ethnicity

The categories of race and ethnicity are socially constructed and thus historically situated in relation to industry. In the United States, these categories were based on what could be assigned as the "white race." The process of racialization was wound around the stratification of society, its segmentation and social inequality (Orser 2007:10). Therefore, to understand the dynamics of labor and its relationship to industry, contextualizing the categorization of different peoples by historical definitions of race and ethnicity is essential. The relationships between groups and the ability for labor to organize was affected by these divisions and ideas.

While slavery is not covered in this theme study, the use of race in the exploitation of African Americans deserves a brief discussion in the context of the marginalization which occurred in

industry even after emancipation based on this earlier racialized pattern. Slightly before and after the abolition of slavery, changes occurred in many minorities' roles in society and the type of work they performed. Following many manufacturers' transition to the factory system of labor, many slave holders unsuccessfully tried to implement factory discipline on their plantations in the Caribbean and the mainland South (Genovese 1991:143). While many enslaved people remained as agricultural workers, others came to work in the factory system. Both Northern and Southern entrepreneurs purchased or leased slaves to work as industrial workers in positions such as machine tenders, mechanics, cobblers, or tanners (Shackel 2009:66-68). Racist practices and beliefs, slave resistance, and a fluctuating economy fostered discord between free and enslaved African-American and White workers in the southern United States, enhanced by free Euro-American opposition to the new competition for wage positions. Whites engaged in racist practices such as "job busting" to drive African Americans away from trades in which they had traditionally participated (Towers 2000:221-222). Despite intergroup tension and societal pressures, southern entrepreneurs continued to employ slave labor at early industrial operations until the onset of the Civil War (Shackel 2009).

After the Civil War ended, freed slaves attempted to control the conditions and scheduling of their work as much as possible. Freed slaves, unable to buy or find land to work, became wage laborers in the Reconstruction South, working on plantations, construction projects, or in processing and production centers. For many freed women, domestic wage labor became a source of income, pride and a context for developing community organization and resistance (Hunter 1997). But despite emancipation, the unequal treatment of African Americans persisted. While society offered free African Americans a measure of control over employment options and work conditions, employer practices and unfair government legislation plagued African Americans and limited their opportunity for independence and economic success (Foner 1991:157). In later years from the 1900s to the 1930s, many freed slave families emigrated to the north and north central states seeking employment and economic security as wage laborers in major cities (Jones 1991:202-204). Though they had lived in segregated enclaves in Northern cities before World War II, the degree of this segregation became more intense (Gordon et al. 1982:207).

The boundaries of identity and what was considered "white" for other groups also shifted over time. Categorization and racialization were tied to a host of differences, such as language or religion, and used as a means of placing them within the industrial and social order. Immigrants also supplied the demand for labor in industry. The later industrial era, roughly from the 1860s to the 1940s, saw large numbers of immigrants fleeing oppression and/or searching for work, enter the country. The mass of immigrants arriving with little resources around the mid-nineteenth century were employed directly in the wage-labor force (Gordon et al. 1982:74) and consumed its products.

Immigrants often began work in the urban industrialized centers and then spread across the country in search of work. The waves of new labor were employed by companies to develop further previously uninhabited or sparsely inhabited areas of the country, playing an important role not only in manufacturing, mineral and other natural resource extraction, but also in expanding infrastructure development into American hinterlands. In the West, immigrants took part in railroad construction, dam building, agricultural labor, timbering, mineral extraction, commercial fishing and processing. The nature of this work: geographically isolated, often temporary or seasonal and largely unskilled, resulted in occupational and domestic settings reflective of the transient nature of this work (Hardesty 2007; Van Bueren 2002b:1-7; Walker 2008b). Residential differentiation of this type continued even after the end of the Second World War, with people living together based on common bonds such as religion, ethnicity, or race, in the process fostering shared dispositions and goals (Dubofsky 1994:236).

Minority discrimination during the industrial era was widespread. Many African American women, for example, were unable to obtain manufacturing, processing, or sales positions due to racially discriminative policies (Jones 1991:208-209). As such, they had a choice between becoming agricultural laborers or domestic laborers. A similar discrimination in hiring practices existed for African American males and other minority groups. Many employers preferred to hire Northern and Western European and Euro-American workers over Southern European, Mexican, Asian, or African American workers (Boris and Lichtenstein 1991:181-184; Jones 1991:208-209; Takaki 1991:214). Accordingly, only certain less-desirable positions, such as manual or agricultural labor, were open for these workers (Jones 1991:202). Employers also

often scaled wages for minorities so that Southern European, African American, Mexican, or Asian workers received less pay than fellow White workers (Jones 1991:204). Considering discrimination in hiring and work practices, it became especially important for minorities to unionize. This organization was made difficult as a result of the positions most commonly offered to minorities as unskilled, transient, manual, and agricultural laborers.

Laws codified discrimination and restrictions based on racial and ethnic categories. Slavery, segregation, and exclusionary laws have marked the industrial period and can be related to industrial modes of production. For instance, the Chinese Exclusion Act of 1882 was a Federal law to prevent male Chinese laborers from entering the country (Orser 2007:129-130). The law was one in a wave of legislation imposing restriction on Chinese immigration arising from fear of competition and interethnic tensions. Another example is the Bracero program which operated as a guest worker program for Mexican migratory workers in the United States from 1942 to 1964. Immigration law and practice helped to create "a Mexican migratory agricultural proletariat, a racialized, transnational workforce" that had various legal statuses (Ngai 2004:128). This policy ensured that this workforce remained separate from the American working class.

Archeological scholarship has examined material culture for patterning that reflects the racial, racialized, or ethnic identification of laboring groups in ways that range from identities internally constructed to identities externally imposed (Epperson 2004; Orser 2007; Singleton and Bograd 1995). Many studies have broadened this analysis by recognizing the role ethnicity and race play in combination with multiple facets of identity including nationality, gender, class, and sexuality (Brighton 2008; Delle et al. 2000; Franklin 1997; 2001; Mullins 1999; Scott 1994; Voss 2008; Wall 1994; Wilkie 2001). Archeology, informed by anthropological ideas, has been particularly adept at examining the ways material culture can be used to address social identities within a variety of conditions and social environments related to labor (Camp 2011; Duke and Saitta 1998; Lightfoot 2005; Mrozowski 2006; Reckner 2009; Wilkie 2001).

Domestic arrangements in laboring towns, work camps, or industrial neighborhoods may reflect a particular ethnic group clustering around or dominating the labor in an industry. In other

cases, groups intermingled, sometimes reflecting the labor hierarchy inherent in industrial work processes. Elsewhere they occur in diachronic succession or accumulation, reflecting the history of global migration flows. Immigrant workers maintained their cultural traditions by forming ethnic communities that offered support and understanding for their beliefs, practices, and values (Boris and Lichtenstein 1991:171).

Some domestic occupations and worksites reflect the concentrated presence of solitary ethnic groups employed in a single industry, blurring the thematic boundaries of sites as ethnic enclaves, work camps, and company towns (Schulz 1996). Patently, they demonstrate characteristics of all three. At the China Camp Site in the vicinity of San Rafael, California, Chinese immigrants occupied a small village or work camp by about 1870 amidst technological features associated with shrimp fishing and processing activities (Bingham 1978). Archeological investigations demonstrated that the occupants of the camp employed technology and material culture reflective of their ethnic ties, as well as consumed a diet reflective of Cantonese cuisine (Schulz 1996:172). Among the practitioners of the archeology of Overseas Chinese, a lively debate surrounds the negotiation of ethnic identities, particularly in regards to observance of traditional continuity in the face of broader scales of economic and political power, racism, and pluralism (Mullins 2008; Voss 2005; Voss and Allen 2008).

In some cases, archeology reveals distinct patterns in the material conditions related to occupations by different groups (Little 2007:49-50). A. E. Rogge's (1995) study of the diverse ethnic makeup of Arizona dam workers examines the dangers inherent in dam construction and the foodways and drinking habits of workers. The archeological study revealed the segmentation and diversity of the work crew occupying this transient work camp. His findings regarding Apache workers suggest that workers sometimes lived in traditional wikiups and altered objects to serve the needs of their traditional cultures. Other cases, such as Don Hardesty's (Hardesty et al. 1994) work on Reipetown in Eastern Nevada, showed that while labor positions and ethnic and class divisions were divided up spatially, domestic occupations left no clearly discernible ethnic distinctions in the archeological record.

Archeology conducted at Van Winkle's Mill in the Ozark region of Arkansas reveals dynamics at this site that span these changes in American history and racialized identity. Jamie Brandon and James Davidson's (2005) analysis of archeology at this timber mill and industrial complex reveal conformity largely to a landscape model comparable to that employed at Southern plantations of the time. This model incorporated the use of enslaved African Americans, including entire family units, in labor. The operations occupied a landscape divided distinctly between domestic and industrial functions. A visually prominent "big house", analogical to those that often held the focus of managerial functions on a Southern plantation, along with a raised garden, presided at the central spot uniting this landscape. Excavations revealed the construction of sturdier worker's housing following the war for emancipated freedmen labor (Brandon 2013; Brandon and Davidson 2005). Comparing artifacts recovered from the post- and ante-bellum period residences illustrated startling differences, namely an increase in the types and amounts of personal goods. Brandon (2013:43) theorizes that the artifacts recovered from this period may reflect the occupants "growing engagement with consumerism" and the fulfillment of their new desires "through carefully considered, critically aware consumption." Research at Van Winkle's Mill synthesizes data gathered from different scales, such as the landscape and individual household objects, to make comparisons. As a result, it reveals information about changing racial and class identities across different historical contexts.

Labor and Gender

The conditions of labor and economy have a large and complex effect on the creation of gendered identities in ways observable in archeological research. Gender identities were woven with racial and ethnic categories. Feminist thought has inspired scholarship in archeology that illuminates the complex constructed nature of gender identity in social contexts (Conkey and Gero 1997; Conkey and Spector 1984; Scott 1994; Seifert 1991; Voss 2006). Archeologists have identified the manner in which contexts of work and labor play a significant role in defining gender as a complex cultural construction often inseparable from racialized and class-based identities. Archeologists have examined the traces of everyday practices including material culture, foodways, and built environments that create, transform, or defy gender identities in these contexts.

Industrial labor saw a shift in gender relationships. During the colonial period, gender played a significant role in the types of work performed, though both women and men shared many duties, including housework. Men often worked as farmers and may have chosen from a broad array of other professions from which to derive all or part of their incomes. The ability to earn a living was closely tied to masculine status, and was a condition of community membership (Tannenbaum 2004:2-3). Laurel Ulrich's (1991:58-68) discussion of housewives and household labor during the colonial period reveals that most women worked in a restricted environment. Middle class and elite women often worked as household managers, and a great deal of women's work focused on growing or preparing food. Most of their labor centered around the home and the immediate surrounding area. Their responsibilities included maintaining families and connected them to their communities through bargaining activities, charity activities, and the raising of children (Ulrich 1991:58). Housework could often involve servants and family members who often performed many duties (Arnesen et al. 2003). As such, it is important to recognize households and adjacent work properties (e.g., gardens, milkhouses, laundries) as essential work centers.

Despite the relatively restricted conditions under which women worked during the colonial and early Federal periods, some women found opportunities to gain control of their working conditions. Widows often found themselves in charge of their late husband's business, as in the case of Anne Catherine Green of Annapolis (Little 1994). Women also often found work as midwives or medics and performed such crafts as beer or cider brewing, textile processing, and teaching (Tannenbaum 2004:3; Ulrich 1982, 1990). Mary Blewett (1988) and Thomas Dublin (1979, 1993) note that women may have worked in some capacity as craftspeople, producing such articles as shoes and straw hats under the supervision of male craftsmen in their household, but this service was not publicly recognized sometimes since men tended to conduct the business end of the production operation such as sales. During the transition period, women initially continued to produce or contribute to the production of goods in this manner but industries, especially the textile industry, began to contract women to work on their own through a system known as piecework. Factory work eventually brought an increasing number of girls and women into the public workplace.

As the household-based production system of the eighteenth century was gradually replaced by the industrial system, women's roles in production changed. Under the craft system, women maintained the household and raised children, but also spent time at home assisting their working husbands or male relatives produce goods (Blewett 1991:108-109). As new production technologies developed, many women continued to help produce goods in their homes, but in greater quantities and at a greater speed (Pleck 1991:16). Many of the job openings were in occupations that can be seen as a commercialization of women's household roles such as domestic service, textiles, or serving (Montgomery 1987:136). Companies increasingly drew women and children out of the home and into labor centers, as they tended to be an inexpensive and efficient source of labor who readily took to factory discipline since few were skilled in a traditional craft (Dawley 1991:97; Gutman 1991:191). Though women's work experiences retained many pre-industrial features including primarily a sexual division of labor, their removal from the home significantly altered their societal roles (Blewett 1991:101, 116). Companies also significantly altered the structure of daily events and chores by removing women and children, the traditional foundations of the home and family, from houses for a considerable amount of time during the day (Pleck 1991).

For other women, the shift to the industrial system corresponded with the rise in spatial divisions of labor with men working outside of the home, possibly in factory settings, and women managing the home and children. The dynamics of this shift changed most aspects of gender relationships and was tied to class identity. For instance, archeologist Diana Wall (1991) has studied the material signature of the cult of domesticity and changing gender roles in nineteenth-century Greenwich Village, New York City, related to spatial patterns of work. Still, whether or not a woman worked outside of the home impacted the time and energy she had to maintain her family and home, the complete removal of men from the household during the day also significantly altered the duties and time women spent maintaining their households. Subsequently, changes in the performance of household labor practices occurred. Both at home and in the workplace, the change to an industrial economy altered gender identities, both masculine and feminine, in ways visible to archeological inquiry and essential to understanding current and past conceptions of gender identity.

The industrial era ushered in changes for the rest of the family and children in general. While children always represented some degree of labor in performing errands or tasks, with industrial labor they became a portion of the workforce as well. Early nineteenth-century small-scale industry employed children. Child labor has been defined as the wage earning of boys and girls under the age of fourteen (Montgomery 1987:132). Children represented a cheap labor force. Children were sometimes recruited from poorhouses, but a more ready supply was obtained from employing the entire family (Gordon et al. 1982:68). By the end of the nineteenth century, the working-class norm saw children finishing six years of elementary education prior to starting work unless the father was unable to work (Montgomery 1987:132). Still, the employment of children and the nature of that labor was dependent on industry, social relations, family dynamics, and current economics. For instance, more children tended to leave school to work during periods of economic depression (Montgomery 1987:132).

Shifts in beliefs about the role of children in work/labor are seen in material culture and offer a line of inquiry to understanding these beliefs within the context of industry and social relations. For instance, the presence of toys recovered from nineteenth-century working-class tenement deposits from the neighborhood of the Five Points in New York City suggests some children had a degree of freedom from work and could participate in childhood activities (Brighton 2001; Griggs 1999:95).

Archeologists have examined gender identities in industrial relations. Archeological research and landscape studies of the Boott Mills industrial complex in Massachusetts by Mary Beaudry and Stephen Mrozowski (Beaudry 1989; Beaudry et al. 1991; Mrozowski et al. 1996) examine the manner in which the owners of the mills instituted an ideology of paternalism that disciplined and regulated the gendered behaviors of workers. Initially, the operators of Boott Mills exclusively hired young unmarried girls from rural backgrounds as factory labor in their textile factories. These young women were housed together in boarding houses where they were closely watched. Behaviors such as “reading, singing, drinking, meetings, leaving work, and gambling” were prohibited as unsuitable to their performance as a disciplined labor supply (Beaudry 1989:20; Mrozowski et al. 1996:4). Archeologists, however, found evidence that workers resisted the efforts to restrict their behavior in the form of hidden caches of alcohol

bottles and tobacco pipes (Beaudry et al. 1991:168-169).

Changing gender and social relations have been documented materially and spatially in other contexts. Historians and archeologists alike have noted the increasing separation between domestic spaces and workspaces over the course of the industrial period (Baxter 2002; Beaudry and Mrozowski 1988; Belford 2001; Cohen 1986). Ruth Cowan (1983) discusses the effects of industrialization on housework and daily life, including changes in architectural designs and use of space, increases in personal belongings, and the advent of germ theory. New household goods and tools offset the increase in duties due to the absence of men from the household, the rise in personal belongings, and new scientific theories. Lizbeth Cohen's (1986) work examines the role of social reformers and companies in their efforts to regulate the home life of immigrant and working-class households using domestic furnishings, consumption patterns, and uses of space to reinforce or shape values emphasizes the intersecting effects of nativism and class-based ideologies on gender identities and familial relationships. Reformers, as well as companies, took up aesthetics to encourage social harmony and stability in the lives of workers. Company housing exemplified these aesthetics, employing simplicity, minimalism, and reinforced particular uses for interior spaces. Smaller units with separate entrances and smaller rooms reinforced a middle-class focus on the nuclear family in place of the communal values of the boardinghouse. The separation of rooms in company housing reinforced middle-class conceptions of divided social, work, and private spaces (Cohen 1986:266).

Margaret Wood's (2002a, 2002b) work in the coal company town of Berwind uses the archeology of domestic refuse and household economy to demonstrate the agency of women's efforts in the home within the context of broad historical and social changes. Wood (2002b) argues that archeology demonstrates that patterns of consumption and domestic labor in the working class households of Berwind, Colorado, between 1900 and 1930, are distinct from the well-documented findings in middle-class households of this period. In one example, she indicates that during the striking era of Berwind's history women contributed to household economy by communal cooking and cleaning and the taking in of boarders. These efforts also helped to build the community cohesion necessary for enduring the difficult economic conditions brought on by striking. In later years, when middle-class households seem to indicate

a preference for mass-produced foodstuffs, working-class women were conserving their money, relying instead upon efforts at thrift including communal cooking and home canning (Wood 2002b). Scholars such as Wood and others highlight the efforts company reformers took to reduce the effects of communalism they perceived as emanating from the domestic realm of working-class households. Such efforts attempted to restrict communal cooking behaviors, the boarding of single males and extended family, and the familial usage of household space (Cohen 1986; Wood 2002a).

Reform efforts during the Progressive Era focused on altering ethnic and gender identities. Part of these efforts in the early twentieth century advocated for spreading middle-class meal preparation and service norms that included the use of nationally marketed processed food (Venable et al. 2000:19). Canned goods, though still expensive, saw a drop in prices and were seen as a symbol of Americanization (Levenstein 2003:107). Just like ceramics and glassware, having and using these commodities properly was perceived as essential for inclusion and using brands and acceptable food commodities was part of being accepted as "American." Social workers, public health workers, and dietary reforms in the early twentieth century, not recognizing how economic insecurity structured diet, attacked the "inferior" way that the working class, especially newer immigrants, chose, prepared, and served their food (Levenstein 2003:103). For reformers, immigrants needed to be discouraged from making their spicy, mixed foods and were encouraged to adopt more of an Americanized diet and dining etiquette (Levenstein 2003:103-105). These reform efforts were linked to labor relationships and the rights of different ethnic and racialized groups. The pressure to conform to these social norms can be seen in the type of goods consumed such as national brands, and the manner in which they were consumed. Material culture thus can present a more nuanced picture of the negotiation of these and other social norms over time by various individuals and groups.

Efforts by archeologists to add complexity to gender would not be complete without recognition of the construction of masculine identities, also equally affected by conditions or roles associated with labor. The intersection of gender and race or ethnicity can be seen in the context of masculine identity among Chinese workers in the Market Street Chinatown in San Jose in the late nineteenth century. Archeologist Bryn Williams (2008) suggests that the jobs worked by a

largely male Overseas Chinese workforce including laundry labor, cooking, and other service work, were not considered normative to male-associated duties and roles among those of European ancestry during the late nineteenth and early twentieth centuries. This led to a popular discourse that "emasculated" male Chinese laborers, a discourse that extended these associations with the material culture and daily practices and habits of these men (Williams 2008:56). William's research focuses on the complex contradictory meanings different groups likely associated with the ubiquitous Chinese or Chinese-style ceramics frequently found in great quantities on such sites. He suggests that tiny porcelain cups, likely to be interpreted as feminine by nativist observers, were more likely to be understood within a Chinese drinking tradition that associated masculinity with both power and gentility.

Labor, Class, and Conflict

From its initial inception to the present, industrial relations and industrial effects have created tensions and conflict. During the period of transition to the factory system, labor disputes, actions, and organization became a tangible reality. Despite the apparent strength of industrialization and the great power that companies exerted over their workers, many workers resisted attempts at the implementation of industrialized work practices and domination and control over their daily lives (Gutman 1976:50-76, 79-117; McGuire and Reckner 2003; Shackel 1996:59). While creating competition between native and foreign-born workers encouraged disorder in the workplace and discouraged unionization (Boris and Lichtenstein 1991:171-172), companies enabled workers to develop a collective voice by eliminating the individualism so strongly associated with the skilled craftsman (Montgomery 1991:289). Over the years, the number of unions representing workers wishes and demands against company policies and practices increased. In general, during most labor protests, workers fought for the institution of union rules, wage increases, and control over working conditions (Montgomery 1991:290-292).

Economic, political, and social conflicts between companies and employees have always existed. The conflicting interests of the two groups encouraged the development of at least two social movements, the industrialization and unionization of labor. During the nineteenth century, when industrialization developed, most industries eventually replaced the artisan method of individual production and piece payment with the daily set pay of the wage labor movement (Shackel

1996:147-162). Because most industries and employers were determined to control work forces that were more unified and structured (Nash 1989), they created company policies that required work to be completed on the company property with set times for the commencement of breaks and recess. They also regulated and standardized hours and pay rates. All of these changes followed the industrialization movement.

Workers responded to industrialization through protests, strikes, sabotage, and other forms of resistance. The end result of much union and protest activity was a standardization of work practices that benefitted both employers and employees (Montgomery 1991:296-297). The conflict and solidarity associated with the development of these organizations both drew people together and apart as social classes connected to their positions of work. In the process, conflict and organization of labor transformed the work and social landscape of the country.

One characteristic of the industrial era is the formation of an industrialized work culture. One theory proposed by anthropologist June Nash (1989) is that the overriding goal of an industry is to create a unified work force, since this type of work force is much easier to control and understand than one composed of disparate ideas, values, and beliefs. To achieve this goal, corporations instituted policies to regulate their employees' habits and behavior inside and outside the work place, as is evident in many company towns (see for instance Mrozowski and Beaudry 1987; Bond 1989:23-29, 35). The material culture present on and within industrial landscapes constitutes an important line of archeological evidence regarding industrial life. Through the architecture of company housing and factories, employers were able to regulate behavior and work ethics. Through material culture and industrial discipline, corporations attempted to create a work force that acted similarly and held the same values and goals, believing that in this way they could retain a steady supply of reliable employees (Landon 1989:41). Firmly enforced policies and practices, coupled with technological changes, caused greater and more far-reaching changes in the lifestyles and health of workers and their families (Shackel 1996). These practices and resistance to them are observable archeologically.

Out of the factory’s consolidation of labor rose a new sense of worker solidarity and collectivism, initially organized around common craft (Montgomery 1991:289). Worker

solidarity encouraged protest to the new factory discipline, and industrial workers began to forge a new identity based on their common interests (Gutman 1976:54; Montgomery 1991:289-292; Shackel 1996:59). The conflicts arising out of this mobilization sometimes led to violent events, occasionally leading to participants killed on both sides of the confrontation. Most often, however, the death toll fell on the side of labor as during incidents such as the Lattimer Massacre (1897), the Ludlow Massacre (1913-1914), and the Battle of Blair Mountain (1921) (Blizzard 2004; Jeffrey-Jones 1978; McGuire and Reckner 2003; Novak 1996; Roller 2013; Shackel and Roller 2012). Other times, this conflict was acted out within the realm of everyday life in the context of work and home.

With its ability to identify aspects of history not included in the written record, archeological research has identified instances of labor resistance to the enforced discipline of industrial labor in the form of sabotage, foot dragging, and the rejection of discipline and regulation (Nassaney and Abel 2000; Shackel 2004). In Paul Shackel's (2000) examination of the bottling works of the Harpers Ferry brewery, the discovery of a large cache of bottles hidden behind walls and in the elevator shaft of the brewing company illustrates a case of undocumented resistance against the established rules of industrial discipline and increasingly dangerous and unhealthy work conditions. Workers disobeyed the management's rule banning the consumption of the factory's product by employees (Shackel 2000).

Changes in the organization of work centers, labor practices, worker status, and work conditions prompted the creation of early labor organizations and political parties, which facilitated the mounting protest from the working class. The development of a cohesive class consciousness among workers and amongst working class communities of diverse ethnic and racial origin are an important theme in labor research. Beginning in the 1990s, a group of archeologists began excavating the Ludlow Tent Colony site in Colorado (Larkin and McGuire 2009; McGuire and Walker 1999). The Ludlow scholars conducted participatory archeological research at the site of the 1914 Ludlow Massacre in which National Guardsmen machine-gunned and burned a striker's camp, killing 20 of its inhabitants. Excavating with graduate and field school students for six field seasons, the collective has unearthed the remains of several tents and storage cellars (McGuire and Reckner 2003:88; Reckner 2009). Rather than taking the residents of the

surrounding area as the target community, the collective has adopted the organized labor movement in Southern Colorado as its target descendant community. Part of the project's goal is to perform participatory archeology in the service of a community (Duke and Saitta 1998:1). McGuire and Reckner (2002) have used the data from Ludlow to explain labor relations in the west, a maneuver helping to situate the American West as a periphery in Wallerstein's world systems theory model. The Ludlow Tent Colony Site is now an NHL designated in part for its national significance to labor archeology and is discussed in **Section H**.

Class relations were altered with changes in industry and industrial relations. From the 1870s until the beginning of the Second World War, a shift occurred in the organization of work and the structure of labor markets with more jobs reduced to common, semi-skilled labor. Control of the labor process was concentrated among foreman and their employers (Gordon et al. 1982:3). Capital and production also became increasingly concentrated (Beaud 1983:117; Kuczynski 1973:124). As operations grew in size from the 1870s to the 1920s, office work became a more important aspect of industries and operations (Arnesen et al. 2003). The position of supervisors, craftsmen, and foremen who became office workers maintaining, scheduling, and ordering the work day and work processes, also grew at this time (Arnesen et al. 2003). This shift in control and the hierarchy of control affected the dynamics of worker relations and conflicts.

The work of the Ludlow project illustrates the dynamics of a protracted and open conflict between management and labor. Industrial sites are, of course, richly complex not only with the conflict caused by new impositions of labor, but also by the kinds of social relations embodied there. The period also saw a great deal of conflict related to racial and ethnic identities as White workers attempted to defend their jobs from the perceived threat of African-American and immigrant workers (Roediger 1999; Towers 2000). Barbara Voss (2005) for example, points to the relationship between white industrial labor unions and violence surrounding the destruction of San Jose's Chinatown in 1887. Voss (2005:430, 432) further points out that industrial labor contexts were important sites of intercultural encounter and communications in the nineteenth-century West. Similarly, Mark Walker (2008a) describes a worker's hierarchy in West Oakland that was shaped by nativist and racial discourses as well as the perceived skill levels of certain types of workers. Walker suggests that domestic life can be interpreted as producing and

expressing a material culture that indicates certain ideas about class consciousness. This approach requires taking into account multiple perspectives at once. In the case of the Cypress Freeway project in Oakland, the consumption of faunal material and dining ceramics were examined. It was found that symbolic differences existed between the quality and quantity of material objects these groups consumed. While the unskilled workers spent more on cuts of meat, the skilled craftsmen consumed more expensive sets of formal dining ware, participating for their own reasons in the ritualized dining that came along with the middle-class cult of domesticity. These variations do not necessarily suggest an acculturation or an emulation of middle-class values, but a situated negotiation of these values based upon local conditions.

Other researchers (Baxter 2002; Van Bueren 2002a) have examined specific contexts such as Western work camps to see how class relations play out in these specific contexts. Wood (2002a) and Hardesty (2002) have examined work and gender in the frontier company towns, noting how such marginal cultural settings allowed women to negotiate new identities as workers and activists garnering new kinds of social and economic power. Margaret Wood's work on the coal company town of Berwind, Colorado is a component of the Ludlow Collective's broader investigation of class solidarity and conflict in the coal region of Colorado. Many of the families residing in the strike camp at Ludlow were former residents of the company town of Berwind. Through her archeological examination of domestic refuse and landscape features, Wood learned that the role of women of diverse ethnic backgrounds was essential to the development of strong class and community identities necessary to endure strike conditions. Post-strike assemblages are contextualized by Wood (2002b) in the administrative practices that aimed at limiting these capacities. In the process, they disempowered women by rendering them solely dependent on men's wages for household income.

Communities and Collectives

Industrial work and relations brought about changes to social life and organization. The effects of changing systems of labor are so far-reaching as to be fundamental to the formation of all other social relations in a society, even those outside the workplace (Delle et al. 2000, Shackel 1996, Silliman 2006). For this reason, the examination of working-class communities and other places of habitation provide important evidence for understanding broad social changes directly

related to changes in work and affecting wider society. This research domain examines the broader impact of the industrial era to the social grouping of people. While this focus intersects with the other three domains, a conceptualization of sites and their assemblages at the level of the collective or the community is crucial for contextualizing the broader impacts of industry and the regional or national significance of sites.

Communities responded to industry and industrial relations differently depending on a host of factors such as different social relations, location, and the nature of the work. Labor archeology conducted in these industrial landscapes can examine the wider pattern of social formations associated with workers and their families, asking research questions regarding settlement composition, design, and density, the impact of industry, environmental adaptation, and community health. For instance, Beaudry and Mrozowski's (1989c) multidisciplinary studies of the Boott Mills complex in the Lowell National Historical Park address the historical archeology of class and industrial labor at the community level by examining several sites together. Beaudry (1989, 1993) and Mrozowski et al. (1989) produced a broad contextual view of nineteenth-century mill operatives' lives. Through this comparison of sites, they were able to examine everyday conditions through the multiple lenses of archeobotany, faunal, microfaunal, landscape, and material culture analyses. These analyses link examinations of public health, hygiene, landscape, and corporate paternalism with the introduction and adoption or rejection of nineteenth-century middle-class Victorian values across the hierarchy of the community.

Archeology has also examined the impact of industry outside of company towns. In urban environments, neighborhoods may develop based around the occupation of a laboring group defined by profession, class, or ethnic background or in connection to a specific industry. Such is the case in the West Oakland Cypress Freeway project, which examined a working-class neighborhood occupied by workers of varying backgrounds associated with the labor provided by the terminus of the Central Pacific Railroad (Walker 2008a). The Irishtown Bend site in Cincinnati is another such neighborhood defined by its industry, consisting of a laboring Irish population which settled along the banks of the Cuyahoga River. The provenance of the neighborhood, extending from the mid-nineteenth to the first few decades of the early twentieth century, can be associated with a supply of inexpensive home sites in the low-lying floodplain of

the river adjacent to unskilled labor opportunities associated with the lake shipping port that thrived in the early days of Cleveland history. The archeological resources of this neighborhood reflect a variety of domestic and commercial sites connected to both the initial Irish occupation and the transition in the last two decades of the twentieth century to Eastern European migrants who replaced the Irish in identical labor functions (Lee 1989).

Industrial communities also included utopian or reform communities. They represent alternative ways of working and living based on the principles of reformed industrialism that led to formation of distinct though often short-lived communities (Shackel 2009:62-63). These communities often sought to resist the new culture of industrial capitalism and include communities founded by social reformers and charismatic leaders, such as Robert Owen's town of New Harmony and subsequent Owenite communities (Shackel 2009:62-63). Such communities offer a different perspective on community formation and dynamics and labor organization than corporate-based industrial towns. These communities are a unique data set and pose different research questions and interests and thus, deserve their own theme study. Therefore, utopian and reform communities are not addressed in this theme study.

Government programs also led to the formation of communities or significant changes to existing communities based on industry. For instance, the Spruce Production Division (SPD) project from 1917 to 1918 has the potential to contain a vast archeological resource encompassing an early instance of Federal intervention in industrial technology and labor relations. In the early years of the First World War, among rising demand for spruce to build airplanes for the war effort, the lumber industry of Oregon was crippled by clashes between management and workers. Workers, organized by the Industrial Workers of the World, demanded better working and living conditions. In response, the Federal government intervened. They put soldiers to work for the logging industry of the state, making uniform demands for the labor and living conditions of all workers. They also constructed massive infrastructure improvements in the area. Though the SPD only lasted for a few years, it had a massive effect on the landscape of the Northwest coast, administering nearly one hundred separate locations in which soldiers and loggers lived and worked. The project is also believed to have been the model for later generations of Federal work programs such as the Civilian

Conservation Corps or CCC (Tonesfeldt 2013).

With the 1929 collapse of the United States stock market, laborers became desperate for work. The government took an active role in revitalizing the economy by establishing both the Works Progress Administration or WPA and the CCC, among other broad scale government work programs (Bloxom 1982:1). These projects employed not only blue collar workers, who created a lasting impression on the landscape by constructing dams and the United States road system, but also white collar workers, artists, writers, and musicians (Bloxom 1982). WPA and CCC properties relate an unusual and complex connection between labor and government activity. Through the excavation of work camps, labor sites, and examination of government and historical records this important chapter of the nation's history can be told. New Deal archeologists also, it should be noted, were responsible for performing some of the fundamental work of historical archeology in this nation, particularly in the American Southwest (Fagette 1996; Lyon 1996).

F. Associated Property Types

Property Types as Categories

The Labor Archeology Theme Study utilizes a property classification system that makes use of property classes and types as described in the *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (NPS 1997). Properties are classified as buildings, sites, districts, structures, or objects (NPS 1997:4). For the purposes of this study, property types are grouped into two major classes: sites and districts.

Property Classes:

- *Sites*: A site is the location of a significant event, a historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure.

•*Districts*: A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

In this study, sites are deposits of archeological and historical value that are associated with industrial labor. Districts are defined as multiple sites or deposits of archeological and historical value that are associated with industrial labor. Districts are a collection of related properties of archeological and historical value that can all document industrial labor. The district has the capacity to highlight many different aspects of work and life. Therefore, the district can be composed of properties that are themselves potentially significant for illustrating aspects of industrial labor. The district can also be a collection of properties that are not individually significant, but together illustrate a more complete picture of industrial labor and thus constitute a significant district. Special attention should be paid to understanding the different properties of a community, town, or area and the relation of these properties to work and work life. Such an attention encompasses a review of the landscape of industrial labor and the interrelation of its components rather than treating properties as isolated and discrete entities. The *National Register Bulletin: How to Prepare National Historic Landmark Nominations* (NPS 1999:64-67) provides guidance on selecting the boundaries of sites and districts. Several general property types can be delineated from the property classes.

Property Types include:
•Worker housing
•Social and Commercial sites
•Institutional sites
•Industrial worksites
•Infrastructure sites

Each of these broad property types is discussed in turn with examples of specific sites or districts that illustrate the different types. Because there is considerable overlap between property types, some types are discussed under more than one category. The property types are listed with the

prominent or most common examples; other specific sites not listed below may be included under these property types depending on the historical context of the site or district.

Worker Housing

At the basic level, worker and employer housing is the location of the residence of workers, employers, and/or their families. This housing may comprise individual properties or contribute to a broader industrial community district. The remains of worker and employer housing indicate community social structure, ethnic, racial, and class divisions, political influences, company policies, cultural styles and trends, and individual wants and needs. Typical archeological features associated with worker housing are cellars, wells, privies, foundations, partially standing structures, standing structures, and domestic trash concentrations. Worker housing can include both company and worker-constructed houses and boarding houses in a variety of styles and materials. Common forms of worker housing include single-family homes, tenements, apartments or attached housing units, boarding houses, hotels, shanties, and impermanent homes, such as tents or dugouts.

Several factors influenced the form of housing in which a worker lived. The identity of the building commissioner was one principal determinant in the form of worker housing constructed. One major commissioner of worker housing was the corporation. Corporations commissioned the construction of housing to supply their workers with reasonably priced, local dwellings. The houses, whether single family home, tenement, hotel, or boarding house, also offered corporations the opportunity to attempt to further control the lives and behavior of their workers (Beaudry and Mrozowski 1989b; Bond 1989; Mulrooney 1989:9-27). Many corporations established strict policies against drinking, rowdy behavior, and non-employee residents in their boarding houses (Bond 1989:23-36). In this way, corporations could try to control how workers conducted themselves during their free time and with whom they had daily contact (Bond 1989:27).

Corporations could further influence workers lives through the architectural designs of the housing they commissioned. In Lowell, as in many other company towns, corporations instituted

a strict, uniform, and simplistic design in their workers' housing. Corporations intended this form of design to imply corporate success and a sense of control and order in their workforce (Landon 1989:41; Mrozowski and Beaudry 1989:290). While company housing enabled employers to attempt to further control the home lives of their workers, privately constructed homes provided workers with the opportunity to express their personal culture and personal preferences. Workers, who constructed their own homes or lived in single-family rentals, could defy corporation attempts at forming a unified workforce by selecting their own building materials and styles.

Despite any intentional or subconscious attempts to defy corporations or popular opinion in a houses' physical presentation to the public, economic and social conditions such as the workers' ethnic background or social status affected the form and quality of the homes constructed. Wealthier and higher status employees, such as managers, often lived in single-family homes made from more substantial and refined materials. Logically, economic boundaries also limited the form and quality of the homes the working-class could construct, often forcing them to use lesser quality materials and simpler designs. Divisions of class, race, and ethnicity are visible in the layout, conditions, and style of workers' housing at some sites. For example, at the Chinese Mining Camp Archeological Site in Idaho (Elliott 1994), canvas and repair tool remains indicate that workers here constructed impermanent homes in a distinctive Chinese style for American mining camps. In the Lower Salmon River Archeological District in Idaho (Sisson and Swanson 1986), the difference between Chinese and European mining practices and living conditions are also noticeably present in the archeological record. Personal housing here offered workers the opportunity to purchase and prepare their homes and daily experiences as they desired (e.g., types of furnishing used, types of foods prepared, and table settings used) (Bond 1989:23, 30; Dutton 1989:87-88). Regardless of social status, workers could make similar statements with their personal behavior, appearance, and consumption habits when corporate housing policies did not restrict them.

Ideas about the hierarchy of industry or relations in industry can be studied by a comparison of the difference in the architecture and spatial relationships between segments of the working population. For instance, Mrozowski (2006:74) documents company attempts to inscribe the

hierarchy of the Lowell mills in the built environment by studying residential form and size. Randall McGuire (1991) details different industrial landscapes in late nineteenth and twentieth-century Broome County, New York. Company owner Jonas Kilmer constructed a landscape and used architecture to emphasize the gulf between him and his workers while another owner George F. Johnson did the opposite by building his house in the same style as his workers (McGuire 1991).

The placement of homes and communities affected the quality of life for workers and employers. Work camps and company towns connected to resource extraction, construction or agricultural work were often located as close as possible to the natural sources of wealth. This resulted in isolated settlements in regions remote or peripheral to the urban centers where the bulk of these resources were consumed or processed (Van Bueren 2002a). In the case of many Western work camps, including those for mineral extraction, timbering and agricultural work, these were sometimes transient settlements that leave an ephemeral footprint for archeological investigation. Nonetheless, interesting archeological work has been conducted on these types of sites that offers a snapshot of clearly defined temporal and social origin for comparison (Hardesty 2002).

Company towns that were developed by Industrial-era capitalist ventures in mining and manufacturing developed rigidly structured company towns which generated, maintained, and reflected differentiation and stratification within the social ranks occupied by management and various levels of skilled and unskilled labor. These company towns vary by region, industry, and temporal context, but each demonstrates important clues about the intended or real relationships between labor and capital. In the case of many mining or resource extractive company towns, housing provided by companies typically consisted of economic, quickly built dwellings for workers. High initial capital investment costs in technological and industrial aspects of the work frequently resulted in a company's attempt to recapture this capital by providing minimal investment in infrastructure including heating or indoor plumbing (Aurand 2003; Mulrooney 1991).

Social and Commercial Sites

Social and commercial sites represent properties, not residences, institutions, or workplaces that were connected with social life and/or commercial functions. Social structures in worker communities are important for the role they played in workers' daily lives. These properties can include a wide range of functions including recreation, culture, education, religion, health, funerary, and social life. The quantity, quality, cost, and variety of social enterprises in a community influenced how workers' entertained themselves, along with how workers' free time and home life was structured. The actual design, construction method, and size of social structures and buildings varied, as did the activities to which each catered.

Social structures common in many industrial contexts include buildings such as hotels, cafes, saloons, brothels, meeting halls, town squares, parks, and dance halls. These structures provided workers with the opportunity to socialize with others and to participate in an activity other than work. The artifact concentrations associated with these structures provide additional information on the activities and practices in social areas. Goldfield Historic District in Nevada contains information on the commercial life of an early twentieth-century gold mining town. Ruins from Goldfield's commercial district include a social club, several banks, a saloon, lodging house, and a hotel (Woodward et al. 1982). Artifacts gathered in this area, particularly around the club and saloon, may provide researchers with valuable information on the types of activities and customers catered to at these social and commercial establishments.

The commercial structures and buildings in workers' communities also provided needed or wanted goods and services to workers and their families. Commercial structures include stores, restaurants, banks, and markets. The presence or absence of certain goods and services, their price, and their availability all affected the structure and quality of workers' home lives. These structures and buildings varied by design, construction method, and size according to the needs, wants, and economic means of the owners and the communities surrounding them. The artifact concentrations associated with these structures provide additional information on the different activities and practices in commercial areas. Individual social and commercial properties are also very useful for labor history analyses. For example, excavations at the Hoff Store Site in San Francisco provided researchers with information on the consumption habits of early to mid-

nineteenth-century Pacific West settlers, particularly gold prospectors (Pastron and Hattori 1990).

The connection of commercial and social sites to industry can shed light on the role and extent to which industry or industries shaped life outside of the workplace. Company sponsored or structured activities or buildings extended the influence of industry. In the early nineteenth century, George F. Johnson created a landscape for his workers that included such structures and places as parks and hospitals and which can be interpreted as an effort to downplay class differences and promote the appearance of equality (McGuire 1991:114-123). Other, potentially non-company sanctioned, activities could have had the opposite effect. For instance, taverns were potential locations of solidarity and bonding for workers and often a means of escape for male workers (Hall et al. 1987:164; Montgomery 1987:91; Rorabaugh 1979:151).

Institutional Sites

The institutional structures found in workers' communities were responsible for providing special services to area residents. Community schools, churches and other religious buildings, hospitals, and jails could improve the quality of life in the area by offering services to improve resident's mental, spiritual, and physical health. Other properties include sites related to governmental or military institutions directly linked to the industrial community such as post offices, courthouses, fire stations, and military facilities. In company towns, corporations often constructed institutional structures to draw new laborers into an area and to insure the continued presence of current employees.

Institutions provide a wide range of data that offers another avenue to understand industry and life outside of work and the relations associated with it. Institutions can be studied to understand quality of life and the services available to workers. The degree to which workers and their community had access to institutional services can illustrate the social relations and inequality within a community. Beyond offering basic services, institutions helped structure the dynamics of the town as well. Churches and other religious buildings and schools were social centers of identity and ideas and could be supportive of or against industry, industry's impacts, and industrial relations.

Industrial Worksites

As a large percentage of a workers' day was spent in the work place, these structures and buildings are important to a study of workers' communities. Worksites encompass a wide-range of potential properties depending on the specific type of production from factories to quarries and many ancillary and supportive locations such as storage facilities or processing sites. Often, work-related structures, buildings, and features served as the economic center of workers' communities. In company towns, the work centers were also responsible for the provision and maintenance of most other community structures and buildings. Strong industrial centers also drew other enterprises and residents to an area. The location, design, and structure of industrial centers also often influenced town layout and development. Changes in the material culture in industrial centers over time may provide answers to questions such as how workers interacted with other employees and employers and how changing technology and work practices affected workers' lives inside the work place.

Work related buildings and structures are significant in several other ways. These buildings and structures may be noteworthy for the role they played in the development of local, regional, and national economies, as architectural or engineering feats, and for their potential association with expanding science and technology. Industrial archeologists have examined the remains of industrial structures, analyzing the architecture, structure, and organization of industries and industrial complexes, and have created a considerable bibliography and documentary record of industrial properties. This substantial data should be drawn upon to aid in the identification and understanding of industrial worksites or used for comparison purposes.

Infrastructure sites

Infrastructure sites represent properties connected to serving the needs of industry and/or communities. Community infrastructure includes such elements as sewer systems, road systems, power lines, water lines, canals, and railroads. These structures and features affected the quality of life for area residents. The availability of transportation routes, clean water, and sewage disposal was important as they helped towns expand, maintain health, and generally encourage workers to remain in communities. Many corporations constructed these features in company towns to facilitate industrial functions, but they also constructed these features for the well-being

of their local employees (Bond 1989:25; Mrozowski et al. 1989). Archeologically, the remains of town or community infrastructure may reflect how and why individuals perceived the space and layout of their environment, as well as possible changes to the use of space following labor or societal changes. Other types of labor sites may also have developed around the need to create infrastructure properties. One such example is the Blackstone Canal Historic District in Massachusetts (Adams et al. 1995), which contains the remains of an early nineteenth-century canal constructed to provide a transportation route for passengers and commercial or industrial shipments and to help harness waterpower. A number of boardinghouses, impermanent construction camps, and nearby dwellings or farmsteads provided workers with residences for the duration of this construction project (Adams et al. 1995).

Infrastructure properties are also important for reasons similar to those of other industrial properties. These properties may be significant for the role they played in the development of local, regional, and national economies, as architectural or engineering feats, and their potential association with expanding science and technology.

Property Type Summary

Each of the property types encompasses an archeological site. A related grouping of similar or different property types represented by individual archeological sites constitutes a district. For instance, a row of several homes belonging to workers and owners in a mining town would be a collection of archeological sites and illustrative of the worker housing property type. Their proximity and/or common relationship to the mining industry would allow them to be grouped as a district. In this example, other property types such as infrastructure sites, industrial work sites, social and commercial sites, and institutional sites related to the industry could also each be considered archeological sites and all grouped under the category of a district along with the worker housing based on their shared affiliation to the mining industry. Such a broader consideration of industrial community beyond the worksite allows for a more dynamic and nuanced understanding of the lives of workers, their families, and people associated with or impacted by industry.

Research Questions

This section suggests and summarizes research issues and questions significant to labor archeology of the Industrial era within the context of the labor research domains proposed in this study and the National Historic Landmark Thematic Framework. Examples of currently designated and potentially eligible National Historic Landmarks and National Register properties whose documentation records or suggests the existence of resources possessing levels of integrity capable of contributing significant information at the national level are mentioned under the appropriate labor research topic.

The four broad research domains described above correlate with the topics outlined in the National Park Service Thematic Framework (NPS 1996). The Revised Thematic Framework serves as a conceptual tool for evaluating the significance of cultural resources and as an outline of major themes and concepts that help to conceptualize American history. The Framework can then be used to help identify cultural resources that embody America's past and to describe and analyze the multiple layers of history represented by the property types (see Table 1).

The following table and section connect each domain to the most relevant themes and topics from the Framework and property types. The correlation stresses the relevancy of the proposed domains from this study for addressing the broader topics represented in each nationally significant resource. The number of applicable Framework themes and topics indicates the diversity and breadth, as well as the potential wealth of data, offered by the study of industrial labor in the US.

The research questions and their intersections with and elucidation through the Framework themes provide a means to focus and evaluate research on different aspects of labor archeology. While these questions and their intersections are a useful means for this purpose, they are not mutually exclusive. The research domains and subdomains of this theme study and the topics and themes of the Framework are woven together as part of the comprehensive picture of life and work in the Industrial era. Researchers should consider the interrelation of these different elements of labor archeology. These connections, along with the specific foci of the research domains, will help frame the assessment of the broader significance of a property or properties.

Table 1: Matrix of Property Types by Thematic Framework Themes and Labor Archeology Theme Study Research Domains

Framework Themes and Topics	Labor Processes	Labor and Identity	Labor, Class, and Conflict	Communities and Collectives
Peopling Places -Family and the Life Cycle -Health, Nutrition, and Disease -Migration from Outside and Within -Community and Neighborhood -Ethnic Homelands -Encounters, Conflicts, and Colonization	-Worker households -Social and Commercial -Industrial worksites -Infrastructure	-Worker households -Social and Commercial -Institutional	-Worker households -Social and Commercial -Institutional	-Worker households -Social and Commercial -Institutional
Creating Social Institutions and Movements -Clubs and Organizations -Reform Movements -Religious Institutions -Recreational Activities		-Social and Commercial -Institutional	-Social and Commercial -Institutional	-Social and Commercial -Institutional
Expressing Cultural Values -Educational and Intellectual Currents -Visual and Performing Arts -Literature -Mass Media -Architecture, Landscape Architecture, and Urban Design -Popular and Traditional Culture		-Worker households -Social and Commercial -Institutional	-Worker households -Social and Commercial -Institutional	-Social and Commercial -Institutional
Shaping the Political Landscape -Parties, Protests, and Movements -Governmental Institutions -Military Institutions and Activities -Political Ideas, Cultures, and Theories			-Social and Commercial -Institutional	-Social and Commercial -Institutional
Developing the American Economy -Extraction and Production -Distribution and Consumption -Transportation and Communication -Workers and Work Culture -Labor Organizations and Protests -Exchange and Trade -Governmental Policies and Practices -Economic Theory	-Worker households -Industrial worksites -Institutional -Social and Commercial -Infrastructure	-Social and Commercial -Worker households	-Worker households -Industrial worksites -Social and Commercial -Institutional	-Social and Commercial -Institutional
Expanding Science and Technology -Experimentation and Invention -Technological Applications -Scientific Thought and theory -Effects on Lifestyle and Health	-Worker households -Industrial worksites -Infrastructure			

Framework Themes and Topics	Labor Processes	Labor and Identity	Labor, Class, and Conflict	Communities and Collectives
Transforming the Environment -Manipulating the Environment and its Resources -Adverse Consequences and Stress on the Environment -Protecting and Preserving the Environment	-Worker households -Industrial worksites -Infrastructure			
Changing Role of the United States in the World Community -International Relations -Commerce -Expansion and Imperialism -Immigration and Emigration Policies	-Industrial worksites -Infrastructure	-Worker households -Social and Commercial	-Social and Commercial -Institutional	

Table 1 provides a matrix of the intersections between the Framework themes and topics and the Labor Archeology Theme Study domains by property type. Researchers should use the table to help determine what research questions are potentially applicable for their property types and the questions and topics that can be addressed. The table serves as a guide, not a prescription, to aid researchers in ensuring the historic context is fully developed. For instance, industrial worksites can be used to address several of the Framework themes in the Labor Processes and Labor, Class, and Conflict domains. Based on the data set, a researcher may find that industrial worksites can best address the topic of both worker and work culture as well as conflict in the workplace. Using this determination, the data can be analyzed around these research questions and the level of significance of the property assessed. The use of the table and applicable Criteria can be used to explore elements of the history of industrial labor beyond archeology as well.

Connection to the Framework themes and topics provides an opportunity to assess the level of significance of a property. The majority of questions are scalable in terms of their significance: local, regional, and/or national. To this end, the proposed research questions are left open and scalable. The ability to connect the Framework topics with comparable data and larger trends provides for an increasing level of significance. Researchers should attempt to place their property in wider regional and national contexts and use comparisons to assess significance and relevance. The following section details the intersection of the domains and Frameworks

themes and topics and possible research questions to help researchers maximize a property's potential to detail labor history.

Labor Processes

Labor archeology sites and properties associated with *Labor Processes* include places with the research potential to illuminate nationally significant aspects of the social, economic, and political systems of industrial labor as they exemplify industrial processes of labor and their transformation from previous forms of work. These sites may include districts or individual households of workers, including those in company towns, industry-related or dependent neighborhoods, or villages. Sites exemplifying data on labor processes can also include manufacturing towns, wharfs, canals, company towns, resource extraction sites, factories, sweatshops, apparel works, mills, furnaces, warehouses, glass works, potteries, and construction sites as well as associated infrastructure such as canals and dams.

The Framework theme, **Peopling Places**, includes the topics: family and the life cycle; health, nutrition, and disease; migration from outside and within; community and neighborhood; ethnic homelands; and encounters, conflicts, and colonization (NPS 1996:7). The dynamics of the family life from the composition of the household and workforce to the economics of the family were dramatically altered and realigned. Evidence of this change can be found at worker households, social and commercial sites, and industrial worksites. The impact of industry also changed patterns of health and nutrition and incidences of disease, which can be studied at worker households, social and commercial sites, infrastructure sites, and industrial worksites. Archeological evidence of both topics can be seen through an analysis of the soils, faunal, floral, human remains, and material deposits.

The Framework theme, **Developing the American Economy**, includes the topics: extraction and production; distribution and consumption; transportation and communication; workers and work cultures; labor organizations and protests; exchange and trade; governmental policies and practices; and economic theory (NPS 1996:11). Industrial labor brought upon and necessitated new forms of extraction and production, distributions and consumptions, as well as means and patterns of transportation and communication. Industrial worksites, such as manufacturing,

processing, mining, timber and lumber, and commercial operations, contribute to the extraction and production topic and to the distribution and consumption topic. The transportation and communication topic as well as distribution topic can be applied to infrastructure sites. Likewise, consumption patterns point to different economic relationships as well as new forms of production. The worker and work culture topic and the exchange and trade topic could be illustrated by worker housing and social and commercial sites. Governmental policies, practices, and economic theory can be seen at institutional sites.

The Framework theme, **Expanding Science and Technology**, includes the topics: experimentation and invention; technological applications; effects on lifestyle and health; and scientific thought and theory (NPS 1996:12). The effects on lifestyle and health can be seen in industrial worksites and worker housing. Industrial worksites and infrastructure sites detail technological applications and the imposition of scientific theory and experimentation and theory.

Industrialization was accompanied by many technological changes. The invention and implementation of new labor technologies, such as the institution of piecework seen at Harpers Ferry, changed the way in which laborers worked and perceived their work. Workers at most manufacturing operations toiled at an increased speed and produced a greater quantity of items with the aid of new machinery and labor practices such as the assembly line. These workers were less attached to their products and the production process than earlier workers were during the artisan production period. Archeological evidence of changes in technology may be found in changes in the material culture associated with the production process.

New technology also impacted workers' health conditions. Changing production and processing methods often forced workers to labor in unhealthy conditions and environments for a significant period of time. For example, the increase in harmful fumes released during production and changes in air quality and temperature caused an increase of bronchial infections and diseases among miners, furnace and forge operators, and brewery workers. The faster speed of machinery, such as weaving and spinning devises, also threatened physical harm to workers in mills and factories.

Working conditions at many labor sites, particularly mining sites, often endangered the health and life of workers. Dangers such as unsanitary arrangements, unstable work sites, machinery, and pollution coupled with exhaustive working hours brought about accidents, illnesses, and deaths. This theme includes sites connected to the health hazards and mortal dangers of many early working conditions. Mining communities where large numbers of workers were killed in accidents or from diseases related to underground excavation work, mills and factories where women and children were harmed by machinery or killed in fires, and breweries where workers received life-threatening illnesses from their working conditions are the types of sites for which this theme offers a research format.

Archeologically, soil analyses and studies of privies and trash pits can reveal information on the impact of changing technologies on workers' health. An increase in parasites in soils and an increase presence of medicinal bottles or products in waste deposits after the implementation of industrialized labor practices are evidence of this issue. Research at Harpers Ferry (see Shackel and Winter 1994) proved the validity of this application of labor archeology.

This theme also concerns the effect of changing technology and work systems on workers' and their families' lifestyles inside and outside the workplace. As described above, changes in labor practices following industrialization affected workers' lives on many levels. New company policies and the replacement of the artisan method of production during the 1800s are visible in the archeological record (Shackel 1996:147-162). Within the workplace, the absence of personal belongings, liquor bottles, or tobacco-related products reflects the institution of new company policies and the practice of the modern work ethic. The absence of work-related items in workers' domestic areas also supports the assumption or expectation of industrialization's separation of work from the home. In boardinghouses, the archeological record provides evidence of company policies on personal behavior and the structure of free time (Beaudry and Mrozowski 1989a:49-61). More specific research questions in this area include how workers responded to new company policies, technology, and the modern work ethic in their consumption habits; how workers' families adapted to the separation of work from the home; and how company policies affected workers' free time and social lives.

The NPS theme, **Transforming the Environment**, includes the topics: manipulating the environment and its resources; adverse consequences and stresses on the environment; and protecting and preserving the environment (NPS 1996:13). Evidence of manipulation of the environment and subsequent adverse consequences and stress on the environment can be seen in industrial worksites, infrastructure sites, and worker households. Industries and labor communities had an enormous impact on the environment and natural resources. Extractive operations and logging industries considerably altered the physical appearance of the environment by digging into the earth, clearing forested lands, and creating waste such as tailing piles and slag heaps.

Beyond these changes to the environment that followed industrial development, labor enterprises altered the environment by harnessing natural resources (especially water resources), developing land for commercial and residential purposes, and increasing pollution as companies became more industrialized and areas became more populated. Archeologically, a study of the development of human habitation and industry within a region will supply information on subsequent transformations of the environment. Soil samples may indicate the introduction of new elements, such as fertilizers, to the environment as well as the depletion of natural resources and minerals. Physical alterations such as vegetation removal, commercial and residential development, and extractive industry processes should be readily visible in the existing landscape.

The Framework theme, **Changing Role of the United States in the World Community**, includes the topics: international relations; commerce; expansion and imperialism; and immigration and emigration policies (NPS 1996:14). The themes of commerce and expansion and imperialism are visible at industrial worksites and worker households. Patterns of consumption reflecting the spread of mass consumerism can illustrate the transformation of commerce that came about with the expansion of industrialism and the influence of policies, which supported this mode of production.

Labor Processes Research Questions:

1) How did work culture and the lives of workers change during this period? How did work and changes in the mode of work affect the family and family relationships as seen at the community or regional level?
2) How were health, nutrition, and quality of life impacted by the shift to industrial labor and changes in industrial labor? Can this shift be seen at the household, community, or state levels? Are there regional patterns in health, nutrition, or quality of life that are documented as part of a shift to or as a result of industrial labor and can this pattern be seen in just one or in different types of industrial work or in a specific time period?
3) What were the patterns of migration and immigration that accompanied the demand for different levels of labor? Does the information from the site or district significantly contribute to the knowledge about migration and immigration patterns regionally or nationally?
4) What were the patterns and impact of extraction, production, distribution, and consumption of the industrial era? How are these patterns identified regionally and how does the site or district contribute to that knowledge? Why is the site important for understanding regional or national patterns?
5) What are the patterns of exchange, trade, and economic theory that characterized this mode of production? How are these patterns identified regionally or nationally and how do they change through time? Does the site or district characterize these patterns in a way that shows that change in a significant way?
6) How did inventions change industry and industrial relations and how was technology applied in this context?
7) How did these technologies effect lifestyle and health and impact the environment? Can such environmental change be seen at the state or regional and national levels? Can the property or properties provide important knowledge about these changes?
8) How did industrialization affect and enable commerce, expansion, and imperialism? Can specific types of work within industrialization be tied to commerce, expansion and imperialism regionally and nationally? How does the site or district help us understand these issues?

Example How did work culture and the lives of workers change during this period? This is a research agenda that can be used to explore the impact of industrial shifts in the workplace as well as outside in the home. The archeology of multiple properties in the town of Harpers Ferry, West Virginia, has shown how significant changes in the work practices were reflected in the home (Lucas and Shackel 1994; Moyer and Shackel 2008; Palus and Shackel 2006; Shackel 1996). Shackel and his colleagues examined how technological changes affected everyday lives as read through material culture. The sites excavated in Harpers Ferry are rare examples of a detailed archaeological study of the nationally significant shift in work practices, domesticity, and social relations with the transformation from craft to wage labor. For instance, Michael Lucas (1994) examined the changing meaning of household material culture, such as dinnerware, within the context of an industrial transformation. These deposits dated from the earliest armory occupation through the turn of the century providing an excellent sample through time to examine new consumer goods and work-related objects in the context of this significant shift in labor (Shackel 1996).

Labor and Identity

Labor archeology sites and properties associated with *Labor and Identity* detail the development or transformation of racial, ethnic, or gender identities or the categorization of laborers and their families related to the social conditions of work. Archeological sites relevant to *Labor and Identity* include those contexts discussed above in the sections on Race and Ethnicity and Gender. Labor archeology sites related to labor and identity include individual households or districts of workers including places such as individual dwellings, company towns, work camps, boardinghouses, bunkhouses, and hotels. They may also include social places in which the expression of cultural practices may be observable such as social halls or other recreational centers, commercial establishments, union buildings, and monuments. Labor and identity properties also can be places of work in cases in which entire industries or tasks within them may have been tied exclusively to particular groups of people as defined by ethnicity, race, or gender. These sites include properties such as factories, office buildings, extraction sites, agricultural operations, ranches, trading outposts, construction sites, and furnaces.

The Framework theme **Peopling Places** includes the topics: family and the life cycle; health, nutrition, and disease; migration from outside and within; community and neighborhood; ethnic homelands; and encounters, conflicts, and colonization (NPS 1996:7). Changes to industrial production and this mode of production affected facets of life related to the movement of people and identities. Evidence of migration and the family and life cycle can be seen at worker households, social and commercial sites, and institutional sites.

Industry demands for labor forces often populated isolated regions. Natural resources, such as ore deposits or water resources that otherwise did not encourage commercial or residential development attracted companies to these areas, who in turn attracted a working population. In the archeological record, the material remains of industry-established labor camps that evolved into permanent settlements in isolated areas are good illustrators of the connection between the draw of labor and the peopling of places and the development of communities and neighborhoods. In other contexts, different groups shared established communities or outside groups were brought into existing communities to provide a cheaper and/or more compliant labor force. Encounters and conflicts may also be studied with the remains of these types of properties, particularly in instances where conflict occurred between different ethnic and/or class groups.

This theme acknowledges the mobile lifestyles of many workers in the United States who were required to follow labor operations into different regions. Illustrations of this theme are available at the colony sites, logging camps, railroad camps, temporary mining communities, and migrant agricultural camps found throughout the country. This theme is also useful in illustrating how labor participated in the Euro-American settlement of outlying areas of the United States.

The Framework theme **Creating Social Institutions and Movements** includes the topics: clubs and organizations; reform movements; religious institutions; and recreational activities (NPS 1996:8). Social and commercial sites and institutional sites document the connection between identity and social institutions and movements. Social, religious, and recreational activities of different groups and their relation to industry can be illustrated by these properties.

The NPS theme **Expressing Cultural Values** includes the topics: education and intellectual currents; visual and performing arts; literature; mass media; architecture, landscape architecture, and urban design; and popular and traditional culture (NPS 1996:9). Cultural values can be read at points of transmission such as social and commercial sites and institutional sites as well as their potential internalization in worker households

The development of cultures as individuals moved in and out of workers' communities, and the impact of industry on traditional cultures may be traced through the presence, absence, or style of artifact remains. Studying exchanges, adaptations, or the disappearance of cultural remains and styles may also clarify the interaction of different cultures at labor sites. From architectural remains, the differences in the style and the materials used in the housing of workers of different class and ethnicity can be useful in understanding perceptions and relationships among different groups of workers. Landscape architecture and urban design can also be useful for similar reasons in this context.

The Framework theme **Developing the American Economy** includes the topics: extraction and production; distribution and consumption; transportation and communication; workers and work cultures; labor organizations and protests; exchange and trade; governmental policies and practices; and economic theory (NPS 1996:11). Workers and work culture and distribution and consumption practices can be seen in worker households and social and commercial sites. Variation in consumption patterns and work culture based on social relations can help illustrate the work relations and community dynamics between different groups.

The Framework theme **Changing Role of the United States in the World Community** includes the topics: international relations; commerce; expansion and imperialism; and immigration and emigration policies (NPS 1996:14). Immigration and emigration policies, imperialism, and international relations can be seen at worker housing and social and commercial sites. The presence of different groups can help to illustrate the history and relationship of immigration and emigration policies to industry, and the broader sphere of international relations and policies.

Labor Identity Research Questions:

1) How did different social relations and identities in the industrial era shift and impact the family in regards to general health and nutrition? Is the site or district reflective of regional or national shifts in social relations and general health?
2) What were the dynamics between different social relationships and identities in the industrial era? Did they evolve in relation to industry with reference to the wider regional and national patterns of immigration and migration? How did the social categories of race, ethnicity, and gender affect hiring and work practices and how did these different identities intersect?
3) What were the dynamics of identity that characterized participation in societal reform movements and religious institutions connected to industry?
4) In the context of industry, how were cultural values expressed and reflected, such as in art, architecture, the built environment, and other elements of material culture?
5) How did the changing role of the United States in commerce and international relations, as a result of industrial development, impact social relations through policies and actions such as expansion and immigration? The broader patterning of US policy should be seen in the material record reflecting community dynamics and the enforcement or lack of enforcement of such policies.

Example In the context of industry, how were cultural values expressed and reflected in things such as art, architecture, the built environment, and other elements of material culture? A. E. Rogge's (1995) study of the diverse ethnic makeup of Arizona dam workers examines foodways, drinking habits, and the dangers of dam construction. The archeological study revealed the segmentation and diversity of the work crew occupying this transient work camp. Rogge (1995) found evidence that some Apache workers lived in traditional wikiups and altered objects to serve the needs of their traditional cultures. Likewise, Don Hardesty's (Hardesty et al. 1994) work on Reipetown in Eastern Nevada found that even though labor positions and ethnic and class divisions were divided up spatially, domestic occupations left no clearly discernible ethnic distinctions in the archeological record. Understanding the expression and negotiation of identity due to the impact of industry and industrial relations is important for understanding the dynamics of labor history of different groups. Both examples present nationally significant

patterns of cultural values and identities influenced or impacted by different and unique forms of work and labor relations.

Labor, Class, and Conflict

Labor archeology sites related to *Class and Conflict* include places in which class identities may have been assigned, negotiated, contested, or developed in the context of labor relations or shared work experiences. These properties may include individual households or entire districts where worker housing may have been including company towns, work camps, strike camps, boardinghouses, bunkhouses, and hotels. They may also include social places in which the expression of class identity may be observable or broadcast such as social halls or other recreational centers, saloons, commercial establishments, union buildings, and monuments. These properties also encompass sites of outright conflict, historical episodes that can serve as a solidifying force for the development of group identities. Sites of conflict and tension range from battlefields or massacre sites to strike camps, public spaces, political centers, monuments, and statuary.

The Framework theme **Peopling Places** includes the topics: family and the life cycle; health, nutrition, and disease; migration from outside and within; community and neighborhood; ethnic homelands; and encounters, conflicts, and colonization (NPS 1996:7). Conflict resulting from the movement of people, especially different groups, can be seen in worker housing, social and commercial sites, and institutional sites.

The Framework theme **Creating Social Institutions and Movements** includes the topics: clubs and organizations; reform movements; religious institutions; and recreational activities (NPS 1996:8). Social and commercial sites and institutional sites show the connection of class and conflict. Clubs and organizations offered opportunities for class bonds as well as exclusion of other groups. The organization of labor, such as in union halls or private clubs, allowed workers or owners to come together to challenge the current work dynamic. Similarly, the forums and context provided by reform movements, religious institutions, and even recreational activities can be viewed in light of their role and involvement in labor disputes and conflicts.

The NPS theme, **Expressing Cultural Values**, includes the topics: education and intellectual currents; visual and performing arts; literature; mass media; architecture, landscape architecture, and urban design; and popular and traditional culture (NPS 1996:9). Worker housing, social and commercial sites, and institutional sites can embody cultural values related to labor and class and conflict.

Archeologists can study conflicts between different groups and classes by analyzing the physical evidence of interactions between different groups, such as material exchanges and distinctions in artifact styles. For instance, differences in construction methods and architectural styles may indicate class divisions. The type of neighboring structures and the community layout are also possible clues to disparities based on the ethnic, racial, and class composition of workers' communities.

Another aspect of workers and work cultures concerns how workers' housing may indicate community and social structure, spatial layout, ethnic and class divisions, company policies, workers' reactions to industrial labor, cultural styles and trends, and individual or household wants and needs. As noted above, the architecture of company housing often closely reflects hegemonic company policies in its strict uniformity and simplicity (Landon 1989:41; Mrozowski and Beaudry 1989:290). The housing layout and placement in the community may reveal how a company would like its working population to behave and whom the company would like its workers' to interact with on a daily basis. Private housing provides workers with the opportunity to express their own culture, opinions, and thoughts. Workers could use traditional or radical architectural styles to express these beliefs and to express their disapproval of company policies and industrial labor.

The framework theme, **Shaping the Political Landscape**, includes the topics: parties, protests, and movements; governmental institutions; military institutions and activities; and political ideas, cultures, and theories (NPS 1996:10). Evidence of parties, protests, and movements as well as political ideas, culture, and theories can be seen at institutional sites and social and commercial sites. Governmental and military institutions and activities can be seen at institutional sites.

This theme focuses on the organization of workers into active groups and unions, and their struggle for workers' rights. Sites directly connected to unionization or union leaders are important properties for this theme, as are sites related to strikes, protests, and union or anti-union activity. The archeology of workers' communities may also illustrate the conflicts that arose between different interests in a labor community. The introduction of unions to company towns was often accompanied by conflict between workers and industry leaders as unions argued for labor reform involving working conditions and salaries. Industry leaders responded to the growing unionization of labor forces by refusing to hire or fire union-affiliated workers and by forbidding their workers from having contact with any union up-risers. Considering these actions, it is not surprising that a number of labor protest camps formed on the outskirts of company towns that forbade unionists (Arnesen et al. 2003).

This theme also focuses on working-class intellectual life. Beyond the general academic education of workers and their families, this theme covers the development of new labor practices, technological changes, and instructions on basic workers' rights. Institutional structures, such as academic and vocational schools, illustrate the education of workers and their families. Instruction in work practices and workers' rights may be more difficult to interpret from the material record. Sites connected to known labor reformers, such as the Kate Mullany House NHL, may be potential properties that illustrate this in the archeological record. Residential properties in communities where changing labor practices occurred may also provide some evidence of home instruction in changing labor practices.

Labor protest camps usually consisted of semi-permanent to impermanent dwellings, as well as possible commercial enterprises that supported camp members. Evidence of these communities may include the remains of structures and associated waste deposits. Likewise, properties associated with significant labor protest leaders, union and protest organizations, or protest actions contribute information significant to the topic of labor organization and protest. Primarily, the existence of an outlying encampment is a possible indication that labor conflict occurred at a company town, as industry leaders would have expelled unionists from their towns.

Unionists who were not directly affiliated with the nearby company town may also have chosen to settle in the area so that they would have easy access to workers they hoped to convert to union membership. In several instances, archeological evidence from labor protest camps or other sites may provide evidence of the violence associated with class conflict. In the nineteenth century, many industry leaders responded to labor protestors with violent force. The Ludlow Tent Colony Site in Las Animas, Colorado (Simmons and Simmons 2008) details such a violent response and the resulting destruction.

The Framework theme **Developing the American Economy** includes the topics: extraction and production; distribution and consumption; transportation and communication; workers and work cultures; labor organizations and protests; exchange and trade; governmental policies and practices; and economic theory (NPS 1996:11). Class and conflict resulting from worker culture and relations can be seen in worker households, infrastructure sites, and industrial worksites as well as social and commercial sites and institutional sites. Governmental policies and practices can be evident at social and commercial sites and institutional sites.

The Framework theme **Changing Role of the United States in the World Community** includes the topics: international relations; commerce; expansion and imperialism; and immigration and emigration policies (NPS 1996:14). Class and conflict related to immigration and emigration can be seen in the policies of various institutions as well as inequities or differing levels of participation in various social and commercial properties.

Labor, Class, and Conflict Research Questions:

1) What was the relationship between labor and industry and how does material culture reflect the way workers responded to industry and industrial relations? How is the site or district indicative of regional and/or national labor relations?
2) Was the relationship between labor and industry in conflict? Does the material record reflect the relationship between labor and capital or within laboring groups? Are these relationships reflective of broader regional and national trends?
3) How did national emigration and immigration policies and patterns lead to labor and class conflicts or disputes?

4) How did educational and intellectual currents, political ideas, cultures, and theories shape the relationship between industry and labor at the property? Given that the adoption of norms or attention to ideas can strain or support this relationship, does the material culture or built environment of the property reflect the nature of these relationships?
5) How did the processes of extraction and production engender the relations between labor and industry, work culture, and class formation, and create tensions? Can the property provide important knowledge about these changes?
6) How do the patterns of consumption and distribution reflect class formation and industrial relations? Does the material and spatial evidence at the site or district contribute regional or nationally significant knowledge about labor relations and the consumption of goods?

Example How was the relationship between labor and industry in conflict and seen in relationships with different institutions, organizations and protests? This research question can detail the dynamic and sometimes contested relationship between workers and employers. For instance, the archeology of the Ludlow Tent Colony Site documented the material culture of striking miners and their families and the dynamics of the strike and its impact, including a battle between striking coal miners and the National Guard that led to the destruction of the tent colony and the deaths of two women and eleven children. As one of the best preserved labor camps in the United States, artifacts from the site have been critical to understanding the effects of striking behavior in regards to class and ethnic interactions. Archeologists have examined whether or not the camp was segregated along lines of ethnicity, religion, or country of origin. Reflecting upon how labor strikes influenced gender roles in labor camps can also be examined in detail from the artifacts found in domestic deposits as workers' domestic sites were traditionally the domain of women. Interestingly, researchers hypothesize that women and children were active participants with the male miners in developing class consciousness, and aided in unifying support for the strike.

Examining the material record has also been crucial for identifying the material conditions that led to strikes during this era in American history. The virtually intact archeological record found within the domestic features of the Ludlow Tent Colony Site consists of the accumulation of the mundane actions of people within their homes. Analysis of these

remains is providing one means to gain a richer, more detailed, and more systematic understanding of the everyday reality of Colorado mining families than is available from documents of the 1913-1914 strike. Finally, the archeological record has been instrumental in defining the specific events that took place within Ludlow Tent Colony on April 20th,1914, the day of the battle, massacre, and conflagration. Battlefield archeology has played a significant role in determining what actually happened on that day as opposed to what was reported in the documentary record. Therefore, Ludlow is a unique example of a site that contributes to the broader and nationally significant history of labor relations and labor struggles.

Communities and Collectives

Labor archeology sites related to *Communities and Collectives* includes places where groups or combinations of different groups lived, socialized and sometimes labored together. These properties may be places built and designed entirely by the management of the properties such as is the case with company towns, company boardinghouses, and some work camps. They may also be entire districts where workers dwellings may have been, including working class neighborhoods, work camps, boardinghouses, bunkhouses and hotels. These places can include structures or sites that served as the setting for the development of community identities including union halls, social halls or other recreational centers, saloons, and other commercial establishments. Overall, the domain looks at the group or community level and is scalable at this dimension, but also can represent research questions of regional and national significance. Examining comparative literature and broader contexts can help assess the research significance of this domain.

The Framework theme **Peopling Places** includes the topics: family and the life cycle; health, nutrition, and disease; migration from outside and within; community and neighborhood; ethnic homelands; and encounters, conflicts, and colonization (NPS 1996:7). Worker households, social and commercial sites, and institutional sites can shed light on migration outside and within communities and community and neighborhood dynamics.

The Framework theme **Creating Social Institutions and Movements** includes the topics: clubs and organizations; reform movements; religious institutions; and recreational activities (NPS

1996:8). At the community level, social and commercial sites show social organization, activities, and movements. Religious institutions at the community level are represented by subsequent institutional sites. Parks, clubs, stores, schools, and churches were among the numerous social institutions industry leaders constructed and supported. In workers' communities in isolated areas, as illustrated by the Cairnbrook Historic District in Pennsylvania, companies were even obligated to provide water resources and housing. All of these institutional provisions further helped to link labor to workers' lives.

The framework theme **Shaping the Political Landscape** includes the topics: parties, protests, and movements; governmental institutions; military institutions and activities; and political ideas, cultures, and theories (NPS 1996:10). Ideas, movements, and issues can be seen in social and commercial sites and institutional sites.

In order for workers to protect their personal autonomy and rights as laborers, they developed unions. These organizations, which slowly developed over time, hoped to give workers a measure of protection against industrial policies and practices (Nash 1989). Unions connected workers into a larger and more organized network of supporters, but they also provided a social connection for laborers. The shared concerns, problems, and goals of laborers united individuals after their set workday. Unions also provided workers with social functions and institutions, such as special meetings or clubs. As described above, the development of unionization may be traced through the study of properties associated with significant labor protest leaders, labor protest activity, and union activity.

The topic "parties, protests, and movements" is well illustrated by properties associated with labor protest and the development of unions. Politicians, and thereby political ideas, cultures, and theories, were closely connected to workers since consumerism and mass production depended on production forces that were satisfied, or at least compliant, with the national standards for labor practices. Accordingly, workers, especially after the formation of unions, demanded certain national standards and expected politicians to satisfy their needs as public representatives. This theme may be more complicated to illustrate archeologically, but properties connected to labor protests that influenced political thoughts and actions are useful

here. The Ludlow Tent Colony Site, described above, is an excellent example of this type of property since the union activity at this site encouraged the definition of methods for resolving labor conflicts (Saitta et al. 2005). Participants of a historic event rarely witness more than a few incidents associated with the event in question. The day-to-day existence of strikers within Ludlow Tent Colony, and the series of documented events that culminated with the tragedy of April 20th, 1914 exemplify these problems in interpreting a historical event. Physical evidence and spatial patterning contained in the archeological record found within the Ludlow Tent Colony Site can assist in resolving some of these issues

The NPS theme, **Expressing Cultural Values**, includes the topics: education and intellectual currents; visual and performing arts; literature; mass media; architecture, landscape architecture, and urban design; and popular and traditional culture (NPS 1996:9). Social and commercial sites and institutional sites would have shaped or contributed to the cultural values and expressions of a community.

The Framework theme, **Developing the American Economy**, includes the topics: extraction and production; distribution and consumption; transportation and communication; workers and work cultures; labor organizations and protests; exchange and trade; governmental policies and practices; and economic theory (NPS 1996:11). Social and commercial sites and institutional sites can offer a broad picture of work cultures, distribution and consumption, exchange and trade, and economic theory.

Economic theory and governmental policies and practices can be applied to a number of properties. These properties may be related to changes in economic theory or changes in policies and practices instituted or guided by the government. Sites connected to government work programs such as the WPA and CCC also provide excellent possibilities for studying the interaction between government and labor activity at the community level.

Communities and Collectives Research Questions:

1) How did industry and the industrial mode of production affect communities and neighborhoods? How are the effects of production part of regional and/or national trends?
2) How were communities created and affected by patterns of migration and immigration related to industry? Can the site or district demonstrate the significant effects of the movement of people to the community as a result of work? How does the dynamic of regional demographics reflect national trends in the movement of peoples across borders or between regions for the purpose of work?
3) What was the relationship between clubs and organizations and industry?
4) At the level of the community or collective, how were societal reform movements started and how did they interact with industry? Can the property provide important knowledge about these regional and national movements at the community level?
5) How did cultural values shape the relationship between communities and collectives and industry and what were the broad patterns of this relationship?
6) What was the community and collective dynamic of participation in political parties, labor organizations, movements, and protests related to industry?
7) How were communities shaped by the process of production, extraction and other aspects of this process? This question intersects with the labor processes domain focusing on the community as a whole.
8) How did governmental policies towards industry affect communities and groups? How can the effects of these policies be seen at the local level? What evidence can the site or district provide to understand how these policies were negotiated?
9) How were patterns of consumption within the community tied to industry and economics in the Industrial era? Do these patterns vary across the community and how does this variation reflect prevailing regional or national patterning?

Example How did industry and the industrial mode of production affect communities and neighborhoods? This question provides an avenue to understand the wider impact of different modes of production. Labor archeology has examined industrial landscapes asking research questions regarding settlement composition, design, and density, and the impact of industry,

environmental adaptation, and community health. For instance, Beaudry and Mrozowski's (1989c) multidisciplinary studies of the Boott mills complex in the Lowell National Historical Park address the community level by examining several sites together. Beaudry (1989, 1993) and Mrozowski et al. (1989) produced a broad contextual view of nineteenth-century mill operatives' lives. Through the comparison of sites, they were able to examine everyday conditions through multiple, but connected, layers of archeological evidence that included specific artifacts, features, and their analysis. These analyses link examinations of public health, hygiene, landscape, and corporate paternalism across the hierarchy of the community providing a much more detailed assessment of the lives of mill workers, their interrelation, and the differences between them. Based on this detailed and thorough examination, the Boott mills complex can provide significant information on the dynamic between industry and the community and, in the process, illuminate regional and national industrial trends.

Evaluation Criteria

Information contained in the theme study is to be used to evaluate the significance of labor archeology properties as National Historic Landmarks or for inclusion on the National Register of Historic Places. Labor archeology properties, represented by archeological sites and districts, considered for National Register nomination must possess integrity of location, design, setting, materials, workmanship, feeling, and association at national, state, or local levels of significance relating to one or more of the Criteria. National Historic Landmark Criteria reflect a similar but more rigorous evaluative framework and threshold for properties possessing the potential to contain information of national significance. As set forth in 36 CFR 65.4, properties meeting these Criteria:

1. Are associated with events that have made a significant contribution to, and are identified with, or that outstandingly represent, the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained; or
2. Are associated importantly with the lives of persons nationally significant in the history of the United States: or
3. Represent some great idea or ideal of the American people; or

4. Embody the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of a period, style or method of construction, or that represent a significant, distinctive and exceptional entity whose components may lack individual distinction; or
5. Are composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition but collectively compose an entity of exceptionally historical or artistic significance, or outstandingly commemorate or illustrate a way of life or culture; or
6. Have yielded or may be likely to yield information of major scientific importance by revealing new cultures, or by shedding light upon periods of occupation over large areas of the United States. Such sites are those that have yielded, or which may be reasonably expected to yield data affecting theories, concepts, and ideas to a major degree.

Labor archeology properties, like other archeological resources, are usually nominated under Criterion 6. To be designated an NHL, a property must contain information that is "expected to yield data affecting theories, concepts, and ideas to a major degree." Other Criteria can also be applicable. Stated briefly, nominations made under Criterion 6 must address two questions:

1. What information is the site likely to yield?
2. Is the information nationally significant?

To prepare a nomination and assess the significance of a property, researchers should follow the steps outlined in the National Register of Historic Places Bulletin: How to Prepare National Historic Landmark Nominations (NPS 1999) and briefly mentioned here in the context of this theme study.

To begin, the researcher needs to find, cite, and justify the qualifying NHL Criteria for the property or properties. To do this, the researcher should use Table 1 to identify the relevant research domains and Framework themes and topics. Next, the researcher should select the applicable research questions the property can address and/or pose additional research questions that have not been conceptualized before. This step necessitates an outline of the historical background of the property and the formation of a defensible research design that includes a

solid overview of current theory, concepts, and ideas, especially in labor archeology and labor history.

From this context, the researcher should be able to compare the data or likely data from the property with other known resources and the knowledge base. From this comparison, the property's relationship to this knowledge base and the relevant Criteria can be detailed. This context is further crucial to assessing the significance of the property at the local, regional, or national level. At the national level, properties should be exceptionally important when compared to other properties. Thus, the relative merit of the significance and integrity of the property should be compared to other similar, potentially nominated properties.

Archeological properties can meet Criteria 1 through 5 in addition to Criteria 6. Inclusion of additional applicable Criteria increases the strength of an assessment and subsequent nomination. For instance, the Ludlow Tent Colony Site was designated an NHL for labor archeology under Criteria 1 and 6. Not only did Ludlow yield archeological data affecting theories, concepts, and ideas to a major degree, the property also was associated with events that have made a significant contribution to, and are identified with, or that outstandingly represent the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained.

Each Criteria requires its own justification. Linking the Criteria to the research domains and Framework themes and topics allows researchers to flesh out the significant aspects and elements of each Criteria. In the case of Ludlow's NHL nomination, the strength and association of these Criteria can be seen in the nomination's discussion of the four applicable Framework themes and five applicable Framework topics (see Simmons and Simmons 2008). Applying the research domains of this theme study, the Ludlow NHL addresses three out of the four research domains. Once again, the overall strength of a nomination is contingent on delineating the relevant Criteria and the argument and research supporting that selection.

National Historic Landmark Exceptions

Ordinarily, cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original

locations, reconstructed historic buildings and properties that have achieved significance within the past fifty years are not eligible for designation. If such properties fall within the following categories they may, nevertheless, be found to qualify:

Exception 1: A religious property deriving its primary national significance from architectural or artistic distinction or historical importance; or

Exception 2: A building removed from its original location but which is nationally significant primarily for its architectural merit, or for association with persons or events of transcendent importance in the nation's history and the association consequential; or

Exception 3: A site of a building or structure no longer standing but the person or event associated with it is of transcendent importance in the nation's history and the association consequential; or

Exception 4: A birthplace, grave or burial if it is of a historical figure of transcendent national significance and no other appropriate site, building, or structure directly associated with the productive life of that person exists; or

Exception 5: A cemetery that derives its primary national significance from graves of persons of transcendent importance, or from an exceptionally distinctive design or an exceptionally significant event; or

Exception 6: A reconstructed building or ensemble of buildings of extraordinary national significance when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other buildings or structures with the same association have survived; or

Exception 7: A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own national historical significance; or

Exception 8: A property achieving national significance within the past 50 years if it is of extraordinary national importance.

Evaluation Standards: NRHP Criteria

Any successful NHL nomination also will meet NRHP Criteria. A site ineligible for listing as an NHL may still meet the Criteria to be listed on the NRHP. The National Historic Preservation Act of 1966, as amended, outlines four Criteria under which a historic or prehistoric site could be qualified for listing on the NRHP. These are listed in 36 CFR 60:

The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. that are associated with events that have made a significant contribution to the broad pattern of our history; or
B. that are associated with the lives of persons significant in our past; or
C. that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. that have yielded, or may be likely to yield, information important in prehistory or history.

Archeological site eligibility is normally considered under Criterion D, the potential to yield information important to prehistory and history. Determining what information is important in history can be accomplished only through explicit arguments linking the site(s) and cultural resources in question to theoretical and substantive questions and issues of archeological or historical knowledge.

Integrity is related to a property's ability to provide sufficiently intact data that yields or is expected to yield information significant to the historic context or theme. The National Register Criteria requires that properties retain integrity of location, design, setting, materials workmanship feeling, and association. Archeological properties are not expected to recall the physical image of an event, person, process, or construction technique. With archeological properties though, natural and cultural processes are likely to affect the integrity of the site.

Therefore, the integrity of archeological properties is assessed by the site's potential ability to provide data for research questions (NPS 1997:46).

The same characteristics that define National Register requirements for integrity apply for NHL integrity: location, design, setting materials workmanship, feeling, and association (NPS 1999:36-37). Furthermore, to assess integrity the researcher must "l) define the essential physical features that must be present to a high degree... 2) determine whether the essential physical features are apparent enough to convey the property's significance; and 3) compare the property with similar properties in the nationally significant theme" (NPS 1999:37).

Specifically for archeological properties, which fall under Criterion 6, the integrity is based on the property's "professionally demonstrated intactness" of deposits and features to the extent that they can address nationally significant research questions (NPS 1999:37). Integrity applies to the level of preservation or quality of information, but it is important to note that due to the complexity of the archeological record, integrity should be a relative measure dependent on the historical context (Little et al. 2000:36-37).

Evaluating Properties for Inclusion as NHLs of Labor Archeology.

To summarize, for a property to meet the Criteria of a National Historic Landmark under the Labor Archeology Theme Study, it must reasonably be expected to yield data affecting theories, concepts, and ideas to a major degree in regards to the formation, transformation, or continuance of major social aspects of labor in America leading to or throughout the Industrial period, roughly from the mid-eighteenth into the twentieth century and be at least 50 years old. Such sites are those which have yielded, or which may reasonably be expected to yield, data that is highly relevant to the research questions and domains outlined in this study.

When assessing NHL or NRHP significance, it is important to note how a property can contribute important information. This can only be done through the development of explicit statements detailing the kinds of information that are available in addition to the integrity of this information for the specific property or district. NRHP or NHL nominations are research designs and syntheses, and not listings of physical attributes or general research questions.

This theme study is meant to help frame and assess these research questions and their significance. A property should have integrity to yield data affecting theories, concepts, and ideas to a major degree and yield or likely to yield nationally significant information. In order to establish the national significance of an archeological resource, it must be demonstrated how the data has made or will make a major contribution to the existing body of information. The discussion of the property must include important research questions on labor archeology of the Industrial era which can be answered by the data contained in the property.

G. Geographic Boundaries

Geographical data defines the boundaries of an area in which the properties for a multiple property group exist or are likely to exist. For the purposes of the National Register and NHLs, the boundary for labor archeology properties is the United States and its territories, such as Guam and Puerto Rico.

H. Summary of Identification and Evaluation Methods

Evaluation Methods and Examples

Potentially eligible NHL sites meeting the Criteria set by this theme study were taken from the National Historic Landmark list and the National Register of Historic Places listing. These properties were evaluated with reference to the themes proposed by this study: Labor Processes, Labor and Identity, Labor, Class, and Conflict, and Communities and Collectives. The properties serve as examples for assessing the significance of labor archeology properties.

To determine which properties might exist that illustrate nationally significant data in labor archeology, a review of properties in the NRHP and NHLs was conducted in an earlier draft of this theme study by David Gadsby and Theresa Solury. No properties were considered if they were not already listed, with one exception for the Chinese Camp in Tuolumne County, California. Considering the scope and scale of the National Register, it was necessary to limit the properties reviewed. The potential properties selected for review were listed under Criterion D for their archeological information potential and had "industry" as an area of significance. There were 423 properties in the National Register listed through 1996 that met these two requirements. Because of the inconsistency in nominations listing areas of significance beyond

"archeology," it is possible that other listed properties may be good candidates for NHL designation. From the 423 properties reviewed, a number were chosen for discussion in this document for several specific reasons. A full list of all the properties originally reviewed for this report follows as Appendix B.

It is important to bear in mind that the information in this document is designed to serve as a guideline for reviewing archeological properties associated with labor archeology. Each property must be judged individually and as such, a property is not immediately guaranteed National Register or NHL acceptance if it meets the suggested requirements in this document. The two most important factors for the selection of properties are quality and content. Each property contains intact archeological material that appears to be in excellent to good condition and is related to a significant moment or theme. The properties described were selected in an attempt to provide as comprehensive a coverage of issues and distribution as possible. Although using a limited database places some constraints on the possible kinds of specific property types, they represent most non-Register and non-Landmark properties as well. It is possible that there are other property types present that were not discussed. It is also important to acknowledge the potential significance of commerce properties, which have not been reviewed here to date. Errors or generalizations in the listing of some properties on the National Register also must be considered in this instance. As such, related properties may not have been reviewed but this is a difficult oversight to overcome as each property on the National Register and the NHL survey would need to be reviewed individually to account for errors or generalizations.

As mentioned above, the integrity of a property was also an important factor in its selection. What constituted the level of integrity was determined by a property's ability or potential to yield information important to research questions addressed at the site. Most nominations contained a clear discussion of the property's integrity that simplified the review. The uniqueness of a property and its connection to a historic context are other important factors in its selection. The properties not discussed in this document were excluded for a number of reasons. Primarily, the properties reviewed during research that were not selected for discussion in this document failed to contain either a strong archeological record with good integrity or evidence of workers' lives. Other properties contained all the necessary elements, but were not related to significant

moments or themes in history. In some instances, the National Register database listed properties as related to archeology and industry, but the archeology and the industry were unrelated to one another. An example of this occurrence is Winehaven in Contra Costa County, California, which is a property containing an early twentieth-century winery but significant for its archeology at a prehistoric Native American habitation site (Winehaven Historical Study Committee 1978).

Other properties do not have enough research or information to be adequately evaluated according to the NHL Criteria For instance, the Antioch Potash Plants in Sheridan County, Nebraska, is a reviewed National Register property that was rejected for further consideration as an NHL at this time because it lacked sufficient data. Fifteen companies organized in the United States to extract potash from alkali lakes during World War I as the nation was primarily dependent on Germany to supply this agricultural nutrient (Jensen 1979:8.1). Five companies composed the Antioch Potash Plants between 1916 and 1918 (Jensen 1979:7.1). The American potash market declined in 1918, causing the plants to temporarily close. These plants were reopened in 1919, but only operated for another five months when Germany began selling affordable potash again (Jensen 1979:8.2). Ten of these companies were in Nebraska, and except for the Antioch plants, the physical evidence of this industry has been almost completely destroyed. Homes for workers, primarily one-to two-room shanties equipped with steam-heat, electric light, and plumbing, are said to be situated nearby. In the 1920s, the shanties were dismantled or moved. At the same time, the plants were torn down to salvage the structural steel, brick, and other reusable materials. All machinery was sold for scrap (Jensen 1979:7.3).

As the above account indicates, a strong history of the development and structure of the Antioch Potash Plants exists and suggests a good potential for archeological remains for this understudied property type. The plant is in a state of visible ruins, but the Antioch Potash Plants' nomination indicates no credible evidence that intact buried cultural sources connected to workers' housing or other activities remains. While documentary sources state the existence and describe the quality of worker housing, researchers have been unable to confirm their presence at this time. Because of this absence, which eliminates much of the potential for information on workers' lives, Antioch Potash Plants was not considered for further consideration as an NHL at this time.

The Black Diamond Mines in Contra Costa County, California, is another example of a National Register property currently rejected for further consideration as an NHL because of a lack of national significance. The Black Diamond Mines is a district covering a region prospected for coal in the mid-1850s. Though the district originally formed around coal mining, commercial silica sand mining became the primary industry in the area during the early-twentieth century (Praetzellis 1991:7.0). Five towns rose around the mines and continued to be populated until the mines closed in the early twentieth century. Overall, the integrity of the site is considered very good, and archeologists have conducted some sporadic excavations at the site between 1979 until 1986 (Praetzellis 1991:8.15). The Black Diamond Mines are potentially important for their role in the westward expansion of the United States and for the cultural adaptations and interactions between various ethnic groups represented at the mines. While this district appears to be a likely candidate for inclusion on the National Register, its national significance is questionable. This property, while in very good condition and representative of an unusual ethnic history for California, is not unique on a national level and contributes more to a regional level of significance. For this reason, the Black Diamond Mines will not be considered for further consideration as a NHL.

While both the Antioch Potash Plants and the Black Diamond Mines can provide information on the structure and organization of workspaces they currently do not show strong potential to reveal nationally significant information on workers' lives and individual activity. Properties best suited for labor archeology investigations contain domestic remains in addition to those of workspaces. While the presence of worker housing is not necessary at each property examined, it is a helpful component since it often reflects the greatest personal impression a worker or a worker's family leaves in the material record of industry.

A Sample of Potential National Historic Landmarks

The following sample sites and districts represent properties that appear likely to be eligible National Historic Landmarks under the Labor Archeology Theme Study. These properties are highlighted to provide researchers a guide to nominating nationally significant sites using this theme study. These sites do not represent all of the potential sites that may be applicable but

serve as a guide for nominating nationally significant labor archeology sites. As of February 2014, only one archeological site has been nominated based on labor archeology, the Ludlow Tent Colony Site. This example and a sample of potentially eligible archeological sites and districts are provided below.

Appendix A contains a list of sites selected as potential NHLs in an earlier draft of this report while a full list of the properties reviewed for that earlier draft follows as Appendix B. Appendix C lists potentially relevant Multiple Property Submission (MPS) studies that can be used in conjunction with this theme study to address specific industrial properties.

Lowell National Historical Park, Massachusetts

Lowell National Historical Park, Massachusetts, is an exemplary example of a district containing data on the establishment of industry and the formation of a built environment reflecting the social relations connected to that industry. Thus the district contains archaeological resources capable of addressing the research domains of Labor Processes and Labor and Identity. The creation of Lowell National Historical Park in 1978 acknowledged Lowell's significant contribution to the American Industrial Revolution (NPS 2008). The city and its textile mills and infrastructure represent the first large-scale planned industrial city in American history, structuring work as well as home life. Lowell served as a model for American industry for much of the nineteenth century (Mrozowksi 2006). The Lowell Locks and Canals Historic District, which includes the canals, their locks, and mills, is already designated as a NHL.

Lowell can contribute to the Labor Processes domain. In the early years of this mill company town, industry operators supplied workers with housing in local boardinghouses constructed and maintained by the mill company. Boardinghouse operators leased their establishments from the mill company, and as leasers they were obliged to follow company regulations unless they wanted to risk losing their operation (Mrozowski and Beaudry 1987:156). As such, the rules for boardinghouse residents were fairly uniform throughout company holdings. Rules against non-company residents, the consumption of alcohol on the premises, or drunken and disorderly behavior by residents were common rules for these housing arrangements. In later years, many of the boardinghouses became tenements.

The archaeological resources at Lowell can also detail the interaction of labor and identity. At Lowell, workers preferred to live in tenements instead of the boardinghouses since they could have a greater control over their personal lives in these establishments (Dutton 1989:88). Residents could furnish tenements as they chose, prepare the foods they desired, and live with a moderate increase in behavioral freedom. Further study of the Lowell workers' housing may provide information about how company policies affected the lifestyles of residents in both establishments and how residents responded to labor changes and industry practices in their material culture and consumption habits. The archeology of Lowell also can illuminate the changing ethnic and gender identity of the workforce.

Excavations at Lowell (see Beaudry and Mrozowski 1989c) have demonstrated the site has the potential to meet at least NHL Criteria 6. The excavations recovered nationally significant data that exemplifies the evolution of industrial production, corporation control, and their effects on the everyday life of workers and their families. One brief example of this type of data, out of the many varieties recovered, is the evidence of the impact of industrialization on personal hygiene found during the excavations. Working in the mills was very dirty. The processes involved in making cloth released clouds of lint and other materials that stuck to the body, which was often covered in sweat and machine grease. Considering the lack of facilities discovered during excavation, it would have been difficult to keep one’s clothes and body clean. Artifacts related to personal grooming were found throughout the boarding house excavations and included combs, cosmetic and cologne containers. These luxuries were probably prized possessions that helped with personal hygiene. Their recovery sheds light on the different strategies, individual and communal, used to mitigate the depersonalizing experience of working in the mills.

In the context of repetitive and anonymous industrial work and low wages, the particular individual choices connected to personal adornment found during the excavations at Lowell take on a particular significance for understanding the development of gender identity. Beaudry and Mrozowski (2001:123) suggest that the particular characteristics of the many decorative hair combs, brooches and buttons are significant for more than their functional role but rather for their capacity to reflect “the active process of the construction of selfhood and of identity”. The

items recovered revealed a penchant for costume jewelry among the young female textile workers, which the researchers suggest reflects a self-conscious expression of working class identity. In some cases, however, jewelry consisted of less expensive black glass versions of more expensive jet jewelry popular among the middle-class women of the time (Mrozowski 2001:123). These items, on the other hand, express middle class aspirations among the workers and perhaps an expression of their increased capacities for earning power (Mrozowksi 2001:123-125). Collected in broadly patterned samples these particular items contribute significant understandings to how individual choices are amalgamated into collective movements of identity formation. Thus, the data can contribute significant important information on the research domains of Labor Processes and Labor and Identity.

Sloss Furnace, Birmingham, Alabama

The Sloss Furnace is an example of a National Historic Landmark that is a potentially eligible property based on labor archeology. The complex was erected in 1881 and 1882 and developed over time producing cast and pig iron. Remaining in operation until 1970, the site represents post-Civil War efforts to industrialize the South and presents evidence of the intense economic competition with the already-industrialized North. This unique example of competition and attempts to modernize can illustrate the Labor Processes domain.

The domain of Labor and Identity is illustrated by the Furnace's workforce. Unlike industries in the North at this time, African Americans made up a large part of the labor pool (Adams 1978:8.1). Archeological evidence has the potential to document the experience of postbellum life for African Americans in the context of industry. The archeological record of the industry documents the racial dynamics and racial hierarchy of the Furnace. The preservation of intact buildings and mining remains indicates the likely preservation of substantial archeological information. The Furnace property has integrity and would be potentially eligible under Criterion 6. The Sloss Blast Furnace would have the archeological potential to contribute significantly to the research domains of Labor Processes and Labor and Identity.

Fayette, Delta, Michigan

The town of Fayette in Delta, Michigan, is a post-Civil War charcoal iron-smelting company town established and operated by the Jackson Iron Company from the middle to the late nineteenth century (Brooks-Miller et al. 1996:7.1). Originally, the town contained industrial, residential, commercial, and administrative structures. Today, the town is well-preserved with the remains of the furnace complex and the associated iron-smelting operation, commercial and administrative buildings, residences, and other associated buildings still standing.

The size of the town allows for a broad examination of the Community and Collectives domain. Fayette is divided into four distinct areas. The industrial area centers around the remains of the furnace complex and also includes the remains of ten conical brick charcoal kilns, a dolomite lime kiln, a dolomite quarry, piling rows from wooden docks, and railroad features (Brooks-Miller et al. 1996:7.4-7.5). Next to the industrial area is the administrative and commercial area. This area contains the remains of buildings, building foundations, demolished buildings and structures with no associated above ground features, and slag deposits used for road fill (Brooks-Miller et al. 1996:7.5).

The residential area is the largest component of Fayette. This area contains the remains of houses, privies, the company sawmill, and pilings from docks with sheds (Brooks-Miller et al. 1996:7.5). A second residential area was occupied by the less skilled workers in Fayette. Archeologists have identified the sites of seven houses, though no visible, aboveground remains are present. Other features in the district include additional housing, the local school district, an oval racetrack, outside commercial structures, religious structures, and a cemetery (Brooks-Miller et al. 1996: 7.7-7.10).

Archeologists have studied the residential and commercial life through limited excavations, but they have not studied the industrial remains to any serious extent. Together the area has the potential to document many facets of the company town and their interrelation. Detailing the domains of Labor Processes and Labor and Identity, the archeological remains of this district can potentially illustrate aspects of iron-processing techniques, and exchange and trade in a company town. It can also provide significant information about workers and work culture of the

nineteenth century. The intact remains of worker housing and the presence of residential areas divided by class have the potential to reveal information on the daily lives of workers, the formation of communities, and the interaction between different class groups. Fayette can meet Criterion 6 and can contribute to the research domains of Labor Processes, Labor and Identity, and Community and Collectives.

Chinese Mining Camp Archeological Site in Idaho County, Idaho

An excellent example of a workers' community that displays evidence of ethnic divisions and conflicts is the Chinese Mining Camp Archeological Site. The Chinese Mining Camp Archeological Site in Idaho County, Idaho, is part of the Chinese Sites in the Warren Mining District MPS. Although White miners officially organized it in 1862, Chinese workers primarily occupied this site from 1870 to 1910, since the local government prohibited the Chinese from legally mining in the district until 1869 (Elliott 1994:8.1). After this time, the government allowed the Chinese to work on leased operations, though they would not allow them to purchase any land. Between 1870 and 1900 at least five separate Chinese mining companies monopolized gravel placer operations in the Warren District (Elliott 1994:8.1). The population in the district fluctuated seasonally, but the Chinese were the dominant ethnic group in the area during these peak mining years (Elliott 1994:8.2).

Archeologists from the University of Idaho in Moscow excavated 20 percent of the Chinese Mining Camp over a four-year period from 1989 to 1992. Their excavations show data that can address both the Labor and Identity and Community and Collectives domains. They have identified several structural ruins and many mining features in the camp. Archeologists have also found thousands of artifacts that are commonly associated with Chinese mining camps in the Pacific West, such as specific kitchen utensils and opium bottles. Imported Asian goods indicate the different consumption habits of the Chinese from the American miners who worked in the area. The Chinese-styled terraced gardens found at this site suggest different food procurement methods for miners. Ethnic differences in mining techniques are also visible in the camp tool and feature remains. Researchers can identify the different mining techniques, community planning, building traditions, and building uses in connection with a strong Chinese heritage,

along with the interrelationship between Chinese and Euro-American miners (Elliott 1994:7.2-7.3, 8.2-8.3).

The remains of housing, tools, food, and other examples of material culture demonstrate cultural divisions and differences and have the potential to provide information on the interaction of different ethnic groups and the effect of governmental policies and practices associated with immigration and immigrants on their lives. The archeological remains from this site illustrate ethnic differences in nineteenth-century work cultures at mining properties and have the potential to address questions pertaining to the research domains of Labor and Identity and Community and Collectives and thus can meet Criterion 6.

Chinese Camp, Tuolumne County, California

A similar property, Chinese Camp, California, is another example illustrating ethnic differences in work cultures. Chinese Camp is a small scale, unincorporated community in the western part of Tuolumne County, California (Bloomfield et al. 1994:VI.1). During the late 1840s when gold was discovered in the area, a number of mining camps sprung up across the countryside as miners followed rumors of great discoveries. Europeans and other mining sponsors brought Chinese laborers into Tuolumne County as a steady supply of cheap labor (Bloomfield et al. 1994:VI.2). Chinese miners settled at Chinese Camp after being collectively forced out of or abandoning nearby Campo Salvado, the site they were contracted to work.

Like the previous example, the Chinese Camp illustrates the research domain of Labor Processes and Labor and Identity as well as Labor, Class, and Conflict. While researchers have not excavated within this district as of 1993, a survey report of the area was prepared. The survey identified thirteen archeological sites representing residences, commercial structures and districts, mining features, ethnic activity areas (specifically the site of the "Tong War", a small battle fought between two opposing Chinese groups), a water works, social activity centers, and a cemetery (Bloomfield et al. 1994:IV.4). The surface survey also identified a number of artifacts connected to the Chinese miners that illustrate different ethnic groups and may suggest trade patterns among the miners and larger trade centers. The data can detail exchanges and

trade in labor communities and the differences in goods used by different ethnic groups at the camp, and the work cultures of nineteenth-century Chinese and non-Chinese miners.

The archeological remains of this district illustrate gold extraction activities and techniques, particularly the differences in mining techniques between Chinese and non-Chinese miners and can illustrate Labor Processes in mining operations. This district may also illustrate the role Chinese immigrants played in the formation of community and national laws, attitudes, and opinions. Chinese Camp thus may contribute to the research domains of Labor Processes, Labor, Class, and Conflict, and Labor and Identity and can meet Criterion 6.

Buxton Historic Townsite in Monroe, Iowa

The Buxton Historic Townsite in Monroe, Iowa, also illustrates ethnic and class divisions and conflict in work cultures, but relates to the African-American experience in the Midwest. Buxton developed out of a need for Consolidated Coal Company owners to create a town site closer to unexhausted coal resources during the late-nineteenth century (Lufkin 1983:8.2). The company constructed a large number of identical houses for its workers and brought commercial and public ventures into the community (Lufkin 1983:7.1-7.2, 8.2). Buxton's most unique feature as a late nineteenth to early-twentieth-century coal mining town was its large African-American population (Lufkin 1983:7.1).

David Gradwohl and Nancy Osborn excavated in Buxton in the early 1980s and identified the types of remains available in the district. These types include the existing remains of buildings and associated features, evidence of transportation networks, portions of the centralized water control facilities, portions of the centralized downtown heating and sanitation system, vegetative evidence of gardens, garbage dumps, scattered refuse, and a cemetery (Lufkin 1983:7.2-7.3).

Buxton Historic Townsite can contribute to the issue of ethnic and class divisions and conflicts with its remains from a rare mixed-ethnicity company town, and thus is potentially significant under Criterion 6 under the domains of Labor Identity and Labor, Class, and Conflict. Unlike many other ethnically divided towns, historic accounts indicate that Buxton was an ethnic utopia, in which all nationalities and ethnic groups had an equal opportunity to advance socially and

economically. The archeological remains of this district illustrate coal extraction and processing techniques, exchanges and trade in a company owned town, and can contribute to an understanding of the workers and work culture of early twentieth-century coal mining. Archeological remains from this site may also reflect differences in the material consumption habits and company treatment of different ethnic groups in the community, helping to enrich our understanding of, or otherwise, complicate historic accounts of the ethnic equality that presided in the town.

Hope Mills Historic District in Cumberland, North Carolina

The Hope Mills Historic District in Cumberland, North Carolina, reflects changes in work practices that accompanied the development and institution of industrialism with its associated technological changes. Hope Mills Historic District contains the remains of an industrial village based around textile mills established before and after the Civil War. During the Civil War, nine textile mills operated here to supply Confederate troops with fabrics. Union troops burned eight of the nine mills during the war. After the war, a northern prospector rebuilt the mills and subsequently a southern company bought the property and ran the mills in competition with northern enterprises. At least one mill was still in operation in the 1980s (Jasperse 1985:8.3-8.7).

The remains of the district include industrial, residential, commercial, and religious structures (Jasperse 1985:7.1). Researchers have conducted no archeological excavations at this site to date, but the potential of the district to contain significant intact deposits is very good. Researchers have uncovered documents and maps accounting for the presence and location of industrial and residential structures and buildings that are no longer visible and predate the Civil War destruction of the mill town (Jasperse 1985:7.2). Other structures, buildings, and landscapes dating before and after the Civil War are standing intact or in ruins.

The district is significant since it contains the sites of both an antebellum cotton mill and New South cotton mills (Jasperse 1985:8.1). Hope Mills Historic District may be able to contribute to the research domain of Labor Processes and has the potential to meet Criterion 6. The archeological remains of this district may illustrate the transition of southern industries from pre-to-post Civil War practices, including changing industry practices, standards, and technologies

from a small scale work force to an industrialized system with wage laborers. The remains of buildings, structures, and the overall layout of the community, along with the remains from machinery and equipment, are helpful in illustrating this theme.

Harpers Ferry National Historical Park in Jefferson County, West Virginia

Harpers Ferry National Historical Park in Jefferson County, West Virginia, has received significant amounts of archeological attention detailing its long industrial history that can detail the research domains of Labor Processes; Labor and Identity; Labor, Class, and Conflict; and Community and Collectives. For instance, the Labor Processes and Labor, Class, and Conflict domains are applicable regarding the John Hall's Rifle Works and the US Armory which introduced factory discipline to Harpers Ferry in the early-nineteenth century along with new technology associated with an early assembly line system. Workers at the armory and the rifle works were resistant to the adoption of industrialized labor practices and technology since they viewed wage laborers as mere machine tenders (Lucas and Shackel 1994; Shackel 1996). Workers resisted the new work discipline in a variety of ways, the most noteworthy of which was to ignore regulations over behavior.

In their consumption habits, most workers responded to changing labor practices by using commercial products over homemade products. The increased social value of commercial goods encouraged many to adopt this consumption pattern, though archeologists at Harpers Ferry have uncovered evidence for some contradictions in workers' consumption habits (Lucas and Shackel 1994; Shackel 1996). The remains of at least one worker's house have contained a number of ceramics that were unfashionable after the adoption of the factory discipline in Harpers Ferry. Paul Shackel (1996:111-145) offered two possible interpretations of these ceramic deposits in his text. One interpretation is that workers at this site may have consciously chosen to use an unfashionable table setting as a form of silent protest to the new labor practices. Workers may have viewed the older style of goods as hallmarks of a time when the artisan method of production was still in place, a time when workers still viewed themselves as important and integral parts of the production process. The second interpretation is that under the new wage labor system, workers received less pay and were less economically capable of keeping up with

society's fashions in commercial goods. Either interpretation represents an instance where workers' lifestyles were affected by industry changes and possible reactions to these changes.

Addressing the domains of Community and Collectives and Labor Identity, work by Matt Palus and Paul Shackel (2006) at the island community of Virginius Island has documented the relationship between changes in management and the daily lives of workers and their community. The industry, which shifted between different types of industries and products, also moved from a paternalistic management style in the early to the middle of the nineteenth century to an absentee form of ownership in the late nineteenth and early twentieth century. Palus and Shackel (2006:xiii) were able to document that the workforce become increasingly deskilled and impoverished and detailed a general homogenization of material culture over time. The Harpers Ferry National Historical Park possess data that can potential address Criterion 6 and the research domains of Labor Processes, Labor and Identity, Labor, Class, and Collectives, and Community and Collectives.

Sunrise City Historic District in the Kenai-Peninsula Borough of Alaska

Sunrise City Historic District in the Kenai-Peninsula Borough of Alaska can also illustrate the effect of labor on workers' and their family's lives as workers had to adapt to inhospitable living and working conditions in order to mine untapped areas. Workers also had to adapt existing mining and building technology as well as work practices to this new environment. This district contains the remains of a late nineteenth-century mining camp that became the supply center for mining in the Sixmile Creek area. Miners first settled Sunrise City in 1895, and continued to inhabit it until 1939 (Buzzell 1997:8.1). Though fire, natural erosion processes, and scavenging for construction material has damaged the site to an extent, the district contains many archeological sites that retain a high degree of integrity (Buzzell 1997:7.9). Researchers divided the district into three components: the townsite area, the Point Comfort area, and the sites on the east side of the Sixmile Creek.

Within the townsite area, one partially standing structure (a log cabin) is still present today (as of 1997). Archeologists and surveyors have identified thirty building foundations (many with root cellars), seventeen artifact concentrations, eleven isolated artifacts, two sections of foundation

from the tram road, nine features of hand-stacked rocks (which are well-preserved evidence of early hand-mining practices), and 175 depressions (Buzzell 1997:7.5-7.6). The Point Comfort area contains the Point Comfort Cemetery and part of a tram road foundation (Buzzell 1997:7.7). The sites on the east side of the Sixmile Creek are associated with the boom years of Sunrise City (Buzzell 1997:7.8). During periods of expansion, newcomers settled on this side of the creek. The ruins of three log cabins with partially standing walls, a standing log cache, six cabin sites marked by root cellars, and the stone foundation of a cabin compose this area of the district.

The remains from workers housing and associated material goods illustrate how the isolated and often inhospitable environment of Alaska affected workers' daily lives and has the potential to answer research questions pertaining to the Labor Process and Community and Collectives domains. The semi-permanent to impermanent style of housing and the poor quality of building materials reflect the temporary nature of habitation in this area, the inability to obtain good quality building materials, and the difficulty in using existing technologies, while the limited variation in material goods reflects the isolation of the area. Structural remains from Sunrise City will also be useful in determining what type of architectural styles miners used in Alaskan mining communities. Technological changes from small scale hand-mining to a larger scale machine-mining are probably also detectable here. Thus, Sunrise City Historic District can address Criterion 6 and the research domains of Labor Processes and Community and Collectives.

Thurber, Erath, Texas

The company town of Thurber, located in Erath, Texas, also has an interesting history of union activity and labor protest. Thurber was the only bituminous coal mining town in Texas, and as such it played a key role in the expansion of the railroad industry in the region. This town was also a strict company town with all of the housing, special features, and amenities controlled by the town owners. Thurber is an important district for union activities as miners struck here for almost a decade in order to receive better working and living conditions, as well as better salaries and can detail the Labor, Class, and Conflict domain. Early in Thurber's union history, any union affiliated person was kept out of the town, and the owners eventually fenced the town off from public access and kept it under militant guard. Strikebreakers were imported into the town,

including a large if not exclusively African-American labor force, from around 1888 until 1899 when striking miners and company management reached agreement (Steinbomer 1979:8.1-8.2). Eventually, Thurber became the first all union town in the country (Steinbomer 1979:8.1). Labor organization and conflict between different groups share research questions associated with the Labor and Identity and Community and Collectives domains.

Researchers have yet to conduct archeology in Thurber. Survey work has documented ten significant standing buildings, a cemetery, two artificial lakes, the foundations from a brick plant, and the foundations of hundreds of homes in the district, all of which suggest the good potential for archeology in the area (Steinbomer 1979:7.1). The potential for marginal, mining protest camps surrounding the townsite is also excellent. As it illustrates the activities of protest movements, political ideas, and the changing political environment of late nineteenth and early twentieth-century company towns, the research domain of Labor and Identity, Labor, Class, and Collectives, and Community and Collectives are applicable and the district has the potential to meet Criterion 6.

Current National Historic Landmarks of Labor Archeology of the Industrial Era

Ludlow Tent Colony Site, Ludlow, Colorado

As mentioned earlier, the Ludlow Tent Colony Site represents the only NHL nominated under the theme of labor archeology. Forty acres encompassing most of the 1913 to 1914 tent colony and the camp's trash dump are in the nominated area (Simmons and Simmons 2008:61). The colony was scene of a battle between National Guard Troops and striking miners in April of 1914 that led to the death of thirteen people in the camp and a fire that engulfed the colony. The Ludlow Massacre was a pivotal event arising from the efforts of workers to improve conditions in the mining industry and the broader struggle between management and labor over the workplace (Simmons and Simmons 2008:4).

Having excellent integrity, Ludlow has yielded and is likely to yield information of major scientific importance. The archeological resources have the potential to answer national significant questions about ethnicity, class interaction, the living conditions of strikers, gender roles, and material conditions of striking as well as events of the battle (Simmons and Simmons

2008:4). An earlier draft of this theme study suggested, the site as a potential NHL based on the Framework themes of Developing the American Economy, Peopling Places, Creating Social Institutions and Movements, and Shaping the Political Landscape because it can address the following topics: encounters, conflicts, and colonization; reform movements; parties, protest, and movements; workers and work culture; and labor organizations and protests. Seen in the light of the current version of the theme study, Ludlow addresses the research domains of Labor and Identity, Labor, Class, and Conflict, and Community and Collectives.

As the only currently designated NHL under labor archeology, researchers are strongly encouraged to review the Ludlow Tent Colony Site NHL nomination as an example of a successful nomination. The nomination is listed under NHL Criteria 1 and 6 (Simmons and Simmons 2008). The nationally significant event that led to Ludlow meeting Criterion 1 was the assault on the tent colony that led to the deaths of women and children. The significance of this event is also supported by a number of other factors including the public's reaction and the event's subsequent commemorations. The ability of archeology to detail this event and the relations and details surround it from a relatively unbiased perspective afforded the property the ability to meet Criterion 6, the high potential to yield information of national significance.

The detailed research framework for Ludlow attempted to address these Criteria with relevant research questions linked to the Thematic Framework themes and topics (Simmons and Simmons 2008:21-22). This attention to the themes and topics allowed them to focus on specific questions that could be addressed by the archeological record. In regards to the theme of Peopling Places, the researchers asked the questions: "Are the strikers' and their family members' ethnicity and countries of origin identifiable in the archeological record?" and "Does the internal layout of the tent colony reflect segregation along lines of ethnicity, religion, and country of origin?" (Reckner 2009; Simmons and Simmons 2008:21-22). In regards to the theme of Shaping the Political Landscape, researchers asked if the archaeology could confirm or dispute the many different highly politicized accounts of the events leading up to the Massacre. Of particular sensitivity in this regard were the differing accounts of April 20th, 1914 by the union and subsequent oral history and that presented by John D. Rockefeller, Jr.'s public relations firm which suggested that the strikers' hostile actions instigated these events.

Because there is an abundance of conflicting documentary evidence for all of these subjects, research was geared towards providing uniquely archaeological perspectives to challenge or elaborate upon the sometimes simplified narratives provided by company and union policy, media and retrospective oral history. In this case, the archaeology's capacity to amalgamate systematic quantitative analysis and historical documentary evidence is exemplified in the manner in which material culture data from multiple sites is made comparable. In this way, archaeology exercises systematic methods to answer complex questions.

In regards to the question of visibility in the record of ethnicity, archaeologist Paul Reckner (2009) found that evidence for some distinctive ethnic-associated items cited conspicuously in the oral history record were, to some extent, present in the archaeological record such as an accordion fragment, religious medallions, and olive oil jars in the case of Italian domestic settings (Reckner 2009:471, Simmons and Simmons 2008: 24). These objects in combination with other objects with explicit ties to certain ethnic origins, such as a particular Italian-made bitters bottle or a medicinal bottle with the Spanish designation "ACEITE MEXICANO," establish that material distinctions between ethnic groups are partially visible in the archaeological record (2009:465-468). At the same time, the overall homogeneity of many everyday objects such as inexpensive ironstone ceramics suggests that "utilitarian objects cross-cut ethnic/national and racial identities, contributing to a common experience of material life in the tent colony" (Reckner 2009:479-480). While the evidence of interethnic sharing is not documented in the archaeological record, the wide distribution of particular items of everyday life marked in the oral histories as playing a major role in this social function such as coffee, tea and alcohol-related serving items, musical instruments, and large cuts of meat suggest that the means for this kind of sharing was well distributed. In all accounts, such interethnic sharing within the constraints of precarious strike conditions played a major role in the development of solidarity (Reckner 2009: 479-480).

A feature representing a shared disposal pit in one area of the camp provided evidence for integrated residency of ethnic groups. In comparison to the main disposal area serving the majority of the camp, the distinctive pattern of this residential pit suggested it served the habitual

use of a particular residential group. A mixture of materials associated with ethnic groups found in this pit suggests that groups were, at this geographical scale, not divided by ethnic group (Reckner 2009:467-468). Reckner (2009:470) concludes based upon this and other evidence that, "integrated residency patterns at Ludlow stand in contrast to the union's official system of ethnic representatives, and to housing patterns in the coal camps prior to [the coal company's] forced housing integration programs… the physical landscape of the community was crafted to intentionally deny the significance of those differences."

In regards to whether the archaeology confirmed, deny, or elaborate upon certain historical accounts of the event, the archaeology, even within the limited scope of the sample, produced some insights. One major account of the companies contended that tent cellars were used by strikers to hold ammunition or as defensive measures. Of the seven cellars excavated, unfired ammunition was found in all, with the majority coming from excavated four cellars. Two cellars contained quantities of .22 and .30 caliber cartridges. Nearby archaeologists found several .30 caliber cartridges fired from the same rifle suggesting that the ammunition fired likely came from the cellar cache. In this instance, archaeology confirmed the use of the cellars in some cases to store ammunition (Simmons and Simmons 2008: 25). At the same time, the presence of significant domestic remains in the cellars indicates, in contrast to the suggestion that the function of cellars was as a defensive measure, this was far from their exclusive function (Saitta et al. 2005). An interesting finding that connects all three research questions cited above is the association of the Greek strikers and rifles in the oral history documentation of the camps. The recovery of an abundance of ammunition in cellars associated with Italian occupation challenges the simplicity of this association (Reckner 2009:471-472).

The successful utilization of the Thematic Framework to formulate research questions to address NHL Criteria makes the Ludlow Tent Colony Site an important example for researchers considering compiling a NHL nomination under the theme of Labor Archeology of the Industrial Era. The research conducted at the site also provides an innovative methodology for integrating the rich documentary record which often accompanies twentieth-century sites in a way which utilizes the particular kinds of evidence archaeology produces to great effect.

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APPENDIX A
List of Properties Identified as Potential NHLs for Significance to Labor Archeology and Associated Themes:

Sunrise City Historic District, Kenai-Borough Peninsula, Alaska, #97000892:
- Developing the American Economy:
  - Extraction
  - Workers and work culture
- Expanding Science and Technology:
  - Technological applications
- Peopling Places:
  - Family and the life cycle
  - Health, nutrition, and disease
  - Migration from outside and within
  - Community and neighborhood
- Areas of interest: Effect of work and location of workers and Change from hand-mining to mechanized-mining

Chinese Camp, Tuolumne County, California (not NR):
- Developing the American Economy:
  - Extraction
  - Workers and work culture
- Peopling Places:
  - Family and the life cycle
  - Health, nutrition, and disease
  - Migration from outside to within
  - Community and neighborhood
  - Ethnic homelands
  - Encounters and conflicts
- Areas of interest: Ethnic and class differences and divisions

Moore Gulch Chinese Mining Site, Clearwater County, Idaho, #83000285:
- Developing the American Economy:
  - Extraction
  - Workers and work culture
- Peopling Places:
  - Family and the life cycle
  - Health, nutrition, and disease
  - Migration from outside to within
  - Community and neighborhood
  - Ethnic homelands
  - Encounters and conflicts
- Areas of interest: Ethnic and class differences and divisions

Chinese Mining Camp Archeological Site, Idaho County, Idaho, #94001018:
- Developing the American Economy:
  - Extraction and production
  - Workers and work culture
- Peopling Places:
  - Family and the life cycle
  - Health, nutrition, and disease
  - Migration from outside to within
  - Community and neighborhood
  - Ethnic homelands
  - Encounters and conflicts
- Areas of interest: Class and ethnic differences and divisions

Lower Salmon River Archeological District, Idaho County, Idaho, #86002170:
- Developing the American Economy:
  - Extraction and production
  - Workers and work culture
- Peopling Places:
  - Family and the life cycle
  - Health, nutrition, and disease
  - Migrations from outside to within
  - Ethnic homelands
  - Encounters and conflicts
- Areas of interest: Class and ethnic differences and divisions

Julien Dubuque's Mines, Dubuque, Iowa, #88002664:
- Developing the American Economy:
  - Extraction and production
  - Workers and work culture
- Peopling Places:
  - Family and the life cycle
  - Health, nutrition, and disease
  - Migration from outside to within
  - Community and neighborhood
  - Ethnic homelands
- Areas of interest: Ethnic and class differences and divisions

Buxton Historic Townsite, Monroe County, Iowa, #83000392:
- Developing the American Economy:
  - Extraction
  - Workers and work cultures
- Peopling Places:
  - Family and the life cycle
  - Health, nutrition, and disease
  - Migration from outside and within
  - Community and neighborhood

Encounters and conflicts
Areas of interest: Ethnic and class differences and divisions

Lowell Historic District, Middlesex County, Massachusetts, #78003149:
Peopling Places:
Health, nutrition, and disease
Developing the American Economy:
Production
Workers and work culture
Labor organizations and protest
Expanding Science and Technology:
Technological applications
Effects on lifestyle and health
Shaping the Political Landscape:
Parties, protests, and movements
Creating Social Institutions and Movements:
Clubs and organizations
Reform movements
Areas of interest: Worker protest, Transition to industrialization, Company town with factory layout, Behavior regulations, and Social, cultural, economic inferences from workers'

Blackstone Canal Historic District, Worchester County, Massachusetts, #95001004:
Developing the American Economy:
Transportation and communication
Workers and work culture
Peopling Places:
Family and the life cycle
Health, nutrition, and disease
Migration from outside to within
Community and neighborhood
Areas of interest: Community developed out around industry needs

Blackstone Manufacturing Company Historic District, Worchester County, Massachusetts, #95001038:
Developing the American Economy:
Production
Distribution and consumption
Workers and work culture
Creating Social Institutions and Movements:
Reform movements
Areas of interest: Gender issues and Development of factory culture

Fayette, Delta County, Michigan, #96001480 (boundary increase):
Developing the American Economy:
Production

Distribution and consumption
Workers and work culture
Areas of interest: Development of factory culture

Goldfield Historic District, Esmeralda County, Nevada, #82003213:
Developing American Economy:
Extraction and production
Workers and work culture
Peopling Places:
Family and the life cycle
Health, nutrition, and disease
Migration from outside to within
Community and neighborhood
Areas of interest: Commercial and social aspects of frontier mining

Kate Mullany House, Troy County, New York, #98000453:
Developing the American Economy:
Workers and work culture
Labor organizations and protests
Shaping the Political Landscape:
Parties, protest, and movements
Political ideas, cultures, and theories
Areas interest: Gender issues

Hope Mills Historic District, Cumberland County, North Carolina, #85001515:
Developing the American Economy:
Production
Distribution and consumption
Workers and work culture
Governmental policies and practices
Expanding Science and Technology:
Technological applications
Effects on lifestyle and health
Creating Social Institutions and Movements:
Reform movements
Areas of interest: Transition from slave-based industry to free-labor and Ethnic and class differences and divisions

Cairnbrook Historic District, Somerset County, Pennsylvania, #94000523:
Developing the American Economy:
Production
Distribution and consumption
Workers and work culture
Peopling Places:
Family and the life cycle
Health, nutrition, and disease

Migration from outside to within
Areas of interest: Community development from industry need

Coopersville Ironworks Site, Cherokee County, South Carolina, #76001699:
Developing the American Economy:
Extraction and production
Workers and work culture
Governmental policies and practices
Areas of interest: Transition from slave-based industry to free labor and Ethnic and class differences and divisions

Thurber, Erath County, Texas, #79002936:
Developing the American Economy:
Extraction and production
Workers and work culture
Labor organizations and protests
Governmental policies and practices
Shaping the Political Landscape:
Parties, protest, and movements
Areas of interest: Labor protest and Ethnic and class differences and divisions

Harpers Ferry National Historic Park, Harpers Ferry Historic District, Jefferson County, West Virginia, #66000041, #79002584:
Developing the American Economy:
Production
Distribution and consumption
Workers and work culture
Labor protests
Governmental policies and practices
Expanding Science and Technology:
Experimentation and invention
Technological applications
Effects on lifestyle and health
Creating Social Institutions and Movements:
Reform movements
Areas of interest: Company town with factory layout, Transition to factory discipline, Behavior regulations, Effect of labor and changing labor practices on Worker protests

Examples of Properties Rejected:
Black Diamond Mines, Contra Costa County, California, #91001425
Winehaven, Contra Costa County, California, #78000658
Antioch Potash Plants, Sheridan County, Nebraska, #79001455

APPENDIX B
National Register and National Historic Landmark Properties Reviewed for the Development of Labor Archeology Property Types:

Alabama
Fort Mitchell Site, Russell County

Alaska
Kolmakov Redoubt Site, Bethel Borough-Census Area
Fort Durham Site, Juneau Borough-Census Area
Sunrise City Historic District, Kenai Peninsula Borough-Census Area
ARHS Site KOD-207, Kodiak Island Borough-Census Area
Kodiak 0 It Site, Kodiak Island Borough-Census Area
Avalitkuk, North Slope Borough-Census Area
Negilik Site, North Slope Borough-Census Area

Arizona
Archeological Site No. AR-03-04-03-81 0, Coconino County
Archeological Site No. AR-03-04-05-414, Coconino County
CHARLES H. SPENCER Hulk, Coconino County
Clifton Townsite Historic District, Green lee County
Growler Mine Area, Pima County
Kentucky Camp Historic District, Pima, Santa Cruz County
Lynx Creek District, Yavapai County

Arkansas
Bayou Sel, Clark County
Jones Mill Site (3HS28), Hot Spring County
Rush Historic District, Marion County

California
Black Diamond Mines, Contra Costa County
Winehaven, Contra Costa County
Green Brae Brick Yard, Marin County
Pierce Ranch Marin County
Round Valley Flour Mills, Mendocino County
Griffith Quarry, Placer County
SS RIO DE JANEIRO Shipwreck, San Francisco County
Bourn-Roth Estate, San Mateo County
White's Gulch Arrastra, Siskiyou County
STAMBOUL (Whaling Bark) Solano County

Colorado
Lamb Spring, Douglas County
Cardiff Coke Ovens, Garfield County
Holden Mining and Smelting Company, Pitkin County

West Stoneham Archeological District, Weld County

Connecticut

Hugh Cain Fulling Mill and Elias Glover Woolen Mill Archeological Site, Fairfield County
Cos Cob Power Station, Fairfield County
New York Belting and Packing Company Fairfield County
Nichols Satinet Mill Site, Fairfield County
Old Mine Park Archeological Site, Fairfield County
Rockrimmon Rockshelter, Fairfield County
Hazardville Historic District, Hartford County
Pitkin Glassworks Ruin, Hartford County
Simeon North Factory Site, Hartford County
Beckley Furnace, Litchfield County
Harvey Brooks Pottery Shop and Kiln Site, Litchfield County
Gillette's Grist Mill, Litchfield County
Kent Iron Furnace, Litchfield County
Milton Center Historic District, Litchfield County
Mount Riga Ironworks Site, Litchfield County
Northfield Knife Company Site Litchfield County
Rockbury Iron Mine and Furnace Complex, Litchfield County
Sharon Valley Historic District, Litchfield County
West Goshen Historic District, Litchfield County
Crittenden Wilcox Mill, Middlesex County
Hammanasset Paper Mill Site, New Haven County
Waterbury Brass Mill, New Haven County
Eli Whitney Gun Factory, New Haven County
Coventry Glass Factory Historic District, Tolland County
Gurleyville Historic District Tolland County
Valley Falls Cotton Mill Site, Tolland County
Daniel s Village Archeological Site, Windham County
New Roxbury Ironworks Site, Windham County

Delaware

J.H. Wilkerson and Son Brickworks, Kent County
Duncan Beard Site, Kent County
Brandywine Village Historic District, Kent County
Phi lip Reading Tannery, Kent County
Wooddale Historic District, Kent County
Lewes Historic District, Sussex County
Pine Grove Furnace Site, Sussex County

Florida

Arch Creek Historic and Archeological Site, Dade County
Kingsley Plantation Duval County
North Hill Preservation District, Escambia County
Bulow Plantation Ruins, Flagler County

Escambe, Leon County
Roberts Farm Historic and Archeological District Leon County
Cedar Keys Historic and Archeological District, Levy County
Arcadia Sawmill and Arcadia Cotton Mill Santa Rosa County
Ross Hammock Site, Volusia County
Wakulla Springs Archeological and Historic District Wakulla County

Georgia
Etowah Valley District Bartow County
John Houstoun McIntosh Sugarhouse, Camden County
Bums Quarry, Carroll County
Athens Factory, Clarke County
Ruffs Mill and Concord Covered Bridge, Cobb County
Sope Creek Ruins, Cobb County
Cole Town District, Coweta County
Tanner's Mill, Hall County
Jewell Historic District, Hancock County, Warren County
John M. War Sr. House, Heard County
Dahlonega Consolidated Gold Mine, Lumpkin County
Fort King George, McIntosh County
Watson Mill Covered Bridge and Mill Historic District, Oglethorpe County
John Frank Mathews Plantation, Talbot County
Lee and Gordon Mill, Walker County
Nacoochee Valley, White County

Hawaii
Mauna Kea Adze Quarry, Hawaii County

Idaho
Barber Dam and Lumber Mill, Adams County
Hells Canyon Archeological District, Adams County, Idaho County, Nez Perce County
Fort Hall, Bannock County
Sawtooth City, Blaine County
Moore Gulch Chinese Mining Site (10-CW-159), Clearwater County
Chinese Mining Camp Archeological Site, Idaho County
Lower Salmon River Archeological District, Idaho County, Lewis County, Nez Perce County

Illinois
Grand Tower Mining, Manufacturing, and Transportation Company Site, Jackson County
Rock Island Arsenal, Rock Island County

Indiana
Muskegon Shipwreck Site, La Porte County

Iowa
Spring Branch Butter Factory Site, Delaware County

Dubuque Trading Post-Village of Kettle Chief Archeological District, Dubuque County
Mines of Spain Lead Mining Community Archeological District, Dubuque County

Kentucky
Martin-Holder-Bush Mill, Clark County
F. Taylor Mill, Clark County
Red River iron Furnace, Estill County
Archeological Site LSI1r52, Franklin County
Kelly's Suwanee Furnace Office, Lyon County
William Suggett Agricultural and Industrial District, Scott County
Center Furnace, Trigg County
Lost River Archeological Cave, Warren County

Louisiana
Barataria Unit of Jean Lafitte Historical Park Historic District, Jefferson Parish
Fullerton Mill and Town, Vernon Parish

Maryland
Linwood Historic District Carroll County
Hartford Furnace Historic District, Hartford County
Husband Flint Mill Site, Hartford County
Lower Deer Creek Valley Historic District, Hartford County
Brookeville Woolen Mill and House, Montgomery County
Woodyard Archeological Site, Prince George's County
Antietam Furnace Complex Archeological Site, Washington County

Massachusetts
Sandy Neck Cultural Resources District, Barnstable County
Samuel Smith Tavern Site, Barnstable County
Mill River Historic District, Berkshire County
Borderland Historic District, Bristol County
Furnace Village Historic District, Bristol County
Russells Mills Villages Historic District, Bristol County
Newburyport Historic District Essex County
Turner Falls Historic District Franklin County
Spot Pond Archeological District, Middlesex County
Borderland Historic District, Norfolk County
Lyon's Turning Mill, Norfolk County
Massachusetts Hornfels-Braintree Slate Quarry, Norfolk County
Stoughtonham Furnace Site, Norfolk County
John Winthrop Jr. Iron Furnace Site, Norfolk County
Town Brook Historic and Archeological District, Plymouth County
Boston Naval Shipyard, Suffolk County
Dorchester Pottery Works, Suffolk County
Blackstone Canal Historic District, Worcester County
Blackstone Manufacturing Company Historic District, Worcester County

Matthews Fulling Mill Site, Worcester County
Rogers House, Worcester County

Michigan
Campbell Farm Site, Cheboygan County
Fayette, Delta County
Minong Mine Historic District, Keweenaw County
F.T. BARNEY, Shipwreck, Presque Isle County

Minnesota
Buena Vista Archeological Historic District, Beltrami County
Old Backus, Cass County
St. Anthony Falls Historic District, Hennepin County
NIAGRA Shipwreck Site Lake County

Mississippi
Plymouth, Lowndes County

Missouri
Pearson Creek Archeological District Greene County
Crescent Quarry Archeological Site, St. Louis County
Williams Creek Archeological Site, St. Louis County
Kreilich Archeological Site, Ste. Genevieve County
Troyer Site, Seward County
Antioch Potash Plants, Sheridan County

Montana
Pretty Creek Archeological Site, Carbon County

Nebraska
Antioch Potash Plants, Sheridan County

Nevada
Sand Springs, Churchill County
Homestake Mine, Clark County
Goldfield Historic District, Esmeralda County
Bristol Wells Town Site, Lincoln County
Belmont, Nye County
Johnson Lake Mine Historic District, White Pine County

New Hampshire
Harrisville Rural District, Cheshire County
Pottersville District, Cheshire County
Mt. Jasper Lithic Source, Coos County
Contoocook Mills Industrial District Hillsborough County
New England Glassworks Site, Hillsborough County

Old County Road South Historic District, Hillsborough County
Wiswall Falls Mills Site, Strafford County

New Jersey
Estellville Glassworks Historic District, Atlantic County
Hopper Gristmill Site, Bergen County
Eayres Plantation and Mill Site, Burlington County
Hanover Furnace, Burlington County
Vincentown Historic District, Burlington County
Dennisville Historic District, Cape May County
Dart's Mill Historic District, Hunterdon County
Everittstown Historic District, Hunterdon County
Potterville Village Historic District, Hunterdon County
G.W. Helme Snuff Mill District, Middlesex County
Tinton Falls Historic District, Monmouth County
Pottersville Village Historic District, Morris, Somerset County
Ringwood Manor, Passaic County
Millville Historic and Archeological District, Sussex County
Feltville Historic District, Union County
Shippen Manor, Warren County

New Mexico
Dawson Cemetery, Colfax County
Hopeful Lode, Lincoln County
Holiday Mesa Logging Camp, Sandoval County
Tonque Pueblo, Sandoval County
Virgin Canyon Logging Camp No.1, Sandoval County
Virgin Mesa Logging Camp No. I, Sandoval County
Virgin Mesa Logging Camp No.2, Sandoval County
Virgin Mesa Logging Camp No. 3, Sandoval County

New York
Stuyvesant Falls Mill District, Columbia County
Adirondack Iron and Steel Company, Essex County
Morganville Pottery Factory Site, Genesee County
Sterlingville Archeological District, Jefferson County
Wood's Grist Mill, Jefferson County
Alpina Archeological District, Lewis County
Lewisburg Archeological District, Lewis County
Brown's Race Historic District, Monroe County
Chili Mills Conservation Area, Monroe County
Elbridge Hydraulic Industry Archeological District, Onondaga County
Burden Iron Works Site, Rensselaer County
Poesten Kill Gorge Historic District, Rensselaer County
Peebles (Peobles) Island Saratoga County
Fall Street-Trinity Lane Historic District, Seneca County

West Stockholm Historic District, St. Lawrence County
Nicoll Halsey House and Halseyville Archeological Sites, Tompkins County
Ithaca Pottery Site, Tompkins County

North Carolina
Robert Harvey Morrison Farm and Pioneer Mills Gold Mine, Cabarrus County
Yoder's Mills Historic District, Catawba County
Hadley House and Grist Mill, Chatham County
Edenton Historic District, Chowan County
Hope Mills Historic District, Cumberland County
West Point on the Eno, Durham County
Bethania Historic District, Forsyth County
Single Brothers Industrial Complex Site Forsyth County
Henry Turner House and Caldwell-Turner Mill Site, Iredell County
Taylor's Mill, Nash County
Wilmington Historic and Archeological District, New Hanover County
Franklinville Historic District, Randolph County
Mount Shepherd Pottery Site, Randolph County
Troublesome Creek Ironworks, Rockingham County
Bechtler Mint Site, Rutherford County
Walnut Hill Cotton Gin, Wake County

Ohio
North Union Shaker Site, Cuyahoga County
Kellys Island Historic District (Boundary Increase), Erie County
Rock Mill, Fairfield County
Berry Brothers Bolt Works, Franklin County
Walter Ring House and Mill Site, Monroe County
Benjamin F. Hopkins Stone Building, Portage County
Zoar Historic District (Boundary Increase), Tuscarawas County
Marietta Historic District, Washington County

Oklahoma
Arrastra Site, Comanche County
Haley's Point Site, Marshall County

Oregon
Isabella, Clatsop County
Champoeg State Park Historic Archeological District, Marion County
Joseph Despard Cabin Site, Marion County
Hudson's Bay Company Granary and Clerk s House Site, Marion County
Sunken Village Archeological Site (35MU4), Multnomah County

Pennsylvania
Bradys Bend Iron Company Furnaces, Armstrong County
Dale Furnace and Forge Historic District Berks County

Dreibelbis Mill, Berks County
Geiger Mill, Berks County
Guldin Mill, Berks County
Nicholas Johnson Mill, Berks County
Kauffman Mill, Berks County
Knabb-Bieber Mill, Berks County
Robesonia Furnace Historic District, Berks County
Yoder Mill, Berks County
Etna Furnace, Blair County
Holicong Village Historic District, Bucks County
North Warwick Historic and Archeological District, Chester County
Robert Wilson House, Chester County
Chester Creek Historic District, Delaware County
Ridley Creek State Park, Delaware County
Alliance Furnace, Fayette County
Brown-Moore Blacksmith Shop, Fayette County
Smock Historic District, Fayette County
Rice's Landing Historic District, Greene County
Barree Forge and Furnace, Huntingdon County
Greenwood Furnace, Huntingdon County
Monroe Furnace, Hunti11gdon County
Robe1tsdale Historic District, Huntingdon County
Mount Hope Estate, Lancaster County
Mill Creek Historic District, Montgomery County
Jacobsburg Historic District, Northampton County
Lehigh Canal: Eastern Section Glendon and Abbott Street Industrial Sites, Northampton County
Boswell Historic District Somerset County
Cairnbrook Historic District, Somerset County
Slickville Historic District, Westmoreland County
Codorus Forge and Furnace Historic District, York County
Kise Mill Bridge Historic District, York County
Muddy Creek Forks Historic District York County
York Iron Company Mine, York County

Puerto Rico
Hacienda Buena Union, Mayaguez Municipality
Central Playa Grande, Vieques Municipality
Resolución Historic District, Vieques Municipality

Rhode Island
Tillinghast Mill Site, Kent County
Furnace Carolina Site Providence County
Furnace Hill Brook Historic and Archeological District, Providence County
McGonagle Site, RU-1227, Providence County
George Fayerweather Blacksmith Shop Washington County
Fisherville Historic and Archeological District, Washington County

Hallville Historic and Archeological District, Washington County
Hillsdale Historic and Archeological District Washington County
Hope Village Historic District Washington County
Silas Mumford Site (Tappan Site RI--705), Washington County
Parris Brook Historic and Archeological District, Washington County
Sodom Mill Historic and Archeological District, Washington County

South Carolina
Pendelton Historic District, Anderson County
Fort Lyttelton Site, Beaufort County
Coopersville Ironworks Site (38CK2) and Susan Furnace Site (38.CK 67), Cherokee County
Cowpens Furnace Site (38CK 73) Cherokee County
Ellen Furnace Site (38CK71), Cherokee County
King's Creek Furnace Site (38CK69), Cherokee County
Nesbitt's Limestone Quarry (38CK69) Cherokee County
Thicketty Mountain Ore Pits (38CK74), Cherokee County
Pottersville, Edgefield County
Pelham Mills Site (38GR165), Greenville County
Trapp and Chandler Pottery Site (38GN169), Greenwood County
Darn Gold Mine, McCormick County
Pendleton Historic District~ Oconee County Pickens County
Columbia Canal, Richland County
Jackson's Furnace Site (38YK217), York County

Tennessee
Patterson Forge (40CH87), Cheatham County
Sycamore Mills Site, Cheatham County
Turnbull forge (40CH97), Cheatham County
Cascade Distillery Site Coffee County
Archeological Site No. 40DV35 Davidson County
Brownsport I Furnace (40DR85), Decatur County
Brownsport II Furnace (40DR86), Decatur County
Decatur Furnace (40DR84), Decatur County
Bellview Furnace (40DS23), Dickson County
Cumberland Furnace Historic District (40DS22), Dickson County
Jones Creek Forge (40DS30), Dickson County
Laurel Furnace (40DS4), Dickson County
Valley Forge (40DS28), Dickson County
White Bluff Forge, Dickson County
East Tennessee Iron Manufacturing Company Blast Furnace, Hamilton County
Tanyard Branch Furnace (40HR121), Hardin County
Lee and Gould Furnace (40HI125), Hickman County
New Aetna Furnace Historic District (40HI 149), Hickman County
Oakland Furnace and Forge (40HI146), Hickman County
Old Aetna Furnace (40H1148), Hickman County
Standard Furnace (40HI145), Hickman County

Fairchance Furnace (40HS 168), Humphrey County
T. D. Davenport Forge (40Lr14), Lawrence County
Napier Furnaces Historic District (40LS14), Lewis County
Steele's Iron Works (40LS15), Lewis County
Rockdale Furnace Historic District (40MU487), Maury County
Gracey-Woodward Furnace (40MT378), Montgomery County
Lafayette Furnace (40MT372), Montgomery County
Louisa Furnace (40 MT379), Montgomery County
Poplar Spring Furnace (40MT376), Montgomery County
Sailor's Rest Furnace (40MT375), Montgomery County
Tennessee Furnace (40MT383), Montgomery County
Washington Furnace and Forge (40MT382) Montgomery County
Yellow Creek Furnace and Forge (40MT371), Montgomery County
Cedar Grove Furnace (40PY77), Perry County
Bear Spring Furnace (40SW207), Stewart County
Bellwood Furnace (40SW21 0), Stewart County
Brunsoni Furnace (40SW219), Stewart County
Clark Furnace (40SW212), Stewart County
Cross Creek Furnace (40SW217), Stewart County
Dover Flint Quarries, Stewart County
Eclipse Furnace (40SW213), Stewart County
Henry Hollister House, Stewart County
LaGrange Furnace (40SW214), Stewart County
Rough and Ready Furnace (40SW215), Stewart County
Big bone Cave, Van Buren County
Forty-eight Forge (40WY63), Wayne County
Marion Furnace (40WY61), Wayne County
Harpeth Furnace (40WM83), Williamson County

Texas
Maverick-Altgelt Ranch and Fenstermaker-Fromme Farm, Bexar County
Terlingua Historic District, Brewster County
Old Brulay Plantation, Cameron County
Cranston Site, Denton County
Roark-Griffith Site, Denton County
Thurber Historic District, Erath County
Marshall Arsenal CSA, Harrison County
El Sal del Rey Archeological District, Hidalgo County
Kirbee Kiln Site, Montgomery County
Alibates Flint Quarries National Monument, Potter County
McKinney Homestead, Travis County

Utah
Howe Flume Historic District, Summit County
Soldier Creek Kilns, Tooele County

Vermont
Battery Street Historic District, Chittenden County
Crystal Lake Falls Historic District, Orleans County

Virgin Islands
Bethlehem Middle Works Historic District, St. Croix Island
Estate La Reine, St. Croix Island
Fairplain Historic and Archeological District, St. Croix Island
Slob Historic District, St. Croix Island
Strawberry Hill Historic District, St. Croix Island
Dennis Bay Historic District, St. John Island
Jossie Gut Historic District, St. John Island
L'Esperance Historic District, St. John Island
More Hill Historic District, St. John Island
Rustenberg Plantation South Historic District, St. John Island
Trunk Bay Sugar Factory, ST. John Island
Hassel Island Historic District, St. Thomas Island

Virginia
Lee-Fendall House, Alexandria Independent City
Longdale Furnace Historic District, Alleghany County
Pamplin Pipe Factory, Appomattox County
Falling Creek Ironworks Archeological Site, Chesterfield County
Danville Tobacco Warehouse and Residential District, Danville County
Brooklyn Tobacco Factory, Halifax County
Chickahominy Shipyard Archeological Site, James City County
Kentland Farm Historic and Archeological District, Montgomery County
Michael Kinzer House, Montgomery County
Petersburg Old Town Historic District, Petersburg County
Kennedy-Wade Mill, Rockbridge County
Port Republic Historic District, Rockingham County
Tubal Furnace Archeological Site, Spotsylvania County
Accokeek Furnace Archeological Site (44ST53), Stafford County
Morgan Jones 1677 Pottery Kiln, Westmoreland County
College Landing, Williamsburg Independent City

Washington
Cape Disappointment Historic District, Pacific County
North Bonneville Archeological District, Skamania County
Cowley Park, Spokane County
Hudsons Bay Gristmill Site on Colville River, Stevens County
Tumwater Historic District, Thurston County
Weyerhaeuser South Bay Log Dump Rural Historic Landscape, Thurston County

West Virginia
Darkesville Historic District, Berkeley County

Mill Creek Historic District, Berkeley County
Tuscarora Creek Historic District Berkeley County
Union Bryarly's Mill, Berkeley County
Peter Tarr Furnace Site, Hancock County
Harpers Ferry Historic District, Jefferson County
Harpers Ferry National Historical Park, Jefferson County
Malden Historic District, Kanawha County

Wisconsin
Trout Point Logging Camp, Ashland County
Potosi Badger Huts Site, Grant County

Wyoming
Black Mountain Archeological District, Big Horn County
Obsidian Cliff Park County
Patteen Creek Site (48PL68), Platte County

APPENDIX C
Applicable Multiple Property Submissions

Appendix C lists potentially applicable Multiple Property Submission cover documents or MPS for labor archaeology of the industrial era. MPS cover documents are currently used by the National Register for multiple property documentation, together with individual registration forms. The National Register has used the Multiple Resource Area (MRA) and Thematic Group Resources (TR) formats in the past. The following list represents MPS, MRA, and TR documents listed as of October 1, 2011 that specifically address industry or resources connected to labor (see Little et al. 2000:62-64). Other specific or more current MPS documents maybe applicable.

Table C1: National Register of Historic Places Potentially Applicable Multiple Covers as of October 1, 2011

State or Territory	Reference Number	Resource Name
AK	64500001	CCC Historic Properties in Alaska MPS
AK	64500980	Entrepreneurship and Exploitation along the Fairweather Coast and the Glacier Bay Vicinity
AR	64500019	Facilities Constructed by the CCC in Arkansas MPS
AR	64500022	Historic Railroad Depots of Arkansas MPS
AR	64500959	New Deal Recovery Efforts in Arkansas MPS
AZ	64500777	Cattle Ranching in Arizona MPS
AZ	64501032	Cattle Ranching in Arizona in the Modern Era, 1945-1970
AZ	64500036	Depression-Era USDA Forest Service Administrative Complexes in Arizona MPS
AZ	64500041	Logging Railroad Resources of the Coconino and Kaibab National Forests MPS
CA	64501116	Late 19th and Early 20th Century Development and Architecture in Pasadena MPS
CO	64500068	Hinsdale County Metal Mining MPS
CO	64000074	Lafayette Coal Mining Era Buildings TR
CO	64500997	Metal Mining and Tourist Era Resources of Boulder County AD MPS
CO	64500071	Metal Mining and Tourist Era Resources of Boulder County MPS
CO	64501020	Mining Industry in Colorado, MPS
CO	64501107	Mining Resources of San Juan County, Colorado MPS

State or Territory	Reference Number	Resource Name
CO	64500970	New Deal Resources on Colorado's Eastern Plains MPS
CO	64500743	Railroads in Colorado, 1858-1948 MPS
CO	64500744	Ranching Resources of South Park, Colorado MPS
CT	64000087	Connecticut State Park and Forest Depression-Era Federal Work Relief Programs Structures TR
CT	64000094	Historic Industrial Complexes of Southington TR
CT	64000095	Historic Industrial Complexes of Southington TR (AD)
DC	64500948	Streetcar and Bus Resources of Washington, DC MPS
DC	64500969	Telecommunications Resources of Washington DC MPS
FL	64500097	Citrus Industry Resources of Theodore Strawn, Inc., MPS
FL	64500105	Fish Cabins of Charlotte Harbor MPS
FL	64500918	Florida's New Deal Resources MPS
IA	64500146	CCC Properties in Iowa State Parks MPS
IA	64500150	Commercial & Industrial Development of Cedar Rapids MPS
IA	64500156	Flour Milling in Iowa MPS
IA	64000151	Houses of Mississippi River Men TR
IA	64500169	Louden Machinery Company, Fairfield Iowa MPS
IA	64500171	Mines of Spain Archeological MPS
ID	64500188	Chinese Sites in the Warren Mining District MPS
IL	64500877	Illinois Waterway Navigation System Facilities MPS
IN	64500212	Grain Mills in Indiana MPS
IN	64500215	New Deal Resources in Indiana State Parks MPS
IN	64500216	New Deal Resources on Indiana State Lands MPS
IN	64500942	New Deal Work Relief Projects in St. Joseph County, Indiana MPS
KS	64501117	Commercial and Industrial Resources of Hutchinson MPS
KS	64500889	Commercial and Industrial Resources of Hutchinson MPS
KS	64500797	New Deal-Era Resources of Kansas MPS
KS	64500223	Railroad Resources of Kansas MPS
KS	64501087	World War II-Era Aviation-Related Facilities of Kansas
KY	64000245	New Deal Era Construction in Kentucky MRA
KY	64000256	Textile Mills of Louisville TR
LA	64000268	Thibodaux MRA
MA	64500254	Water Supply System of Metropolitan Boston MPS
MN	64000380	Cold Spring Brewers' Houses TR
MN	64500278	Commercial Logging in Minnesota MPS
MN	64000350	Cuyuna Iron Range Municipally-Owned Elevated Metal Water Tanks TR
MN	64500279	Federal Relief Construction in Minnesota MPS
MN	64500805	Federal Relief Construction in Minnesota MPS AD
MN	64500751	Grain Elevator Design in Minnesota MPS

State or Territory	Reference Number	Resource Name
MN	64500281	Minnesota Hydroelectric Generating Facilities MPS
MN	64500285	Minnesota State Park CCC/WPA/Rustic Style MPS
MO	64000398	Missouri Lumber and Mining Company MRA
MO	64501090	Railroad Related Historic Commercial and Industrial Resources in Kansas City, MO MPS
MO	64500308	Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPS
MO	64500914	South St. Louis Historic Working and Middle Class Streetcar Suburbs MPS
MO	64500882	Working Class Hotels at 19th and Main Streets, Kansas City, Missouri MPS
MO	64500993	Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPS
MS	64500330	State Parks in Mississippi built by the CCC MPS
NC	64000467	Slater Industrial Academy Houses TR
NC	64500884	Tapoco Hydroelectric Project MPS
NE	64500895	Petroleum Marketing by the Standard Oil Company (Nebraska) MPS
NH	64000483	Amoskeag Manufacturing Company Housing Districts TR
NJ	64000496	Operating Passenger Railroad Stations TR
NM	64500410	Auto-oriented Commercial Development in Albuquerque MPS
NM	64500421	Mining Sites in the Nogal Mining District of the Lincoln National Forest MPS
NM	64500423	New Deal in New Mexico MPS
NM	64500424	Public Works of the CCC in the Lincoln National Forest MPS
NM	64500426	Railroad Logging Era Resources of the Canon de San Diego Land Grant in North--Central New Mexico MPS
NM	64500427	Railroad Logging Sites of the Sacramento Mountains, New Mexico MPS
NY	64500843	Buffalo Grain and Materials Elevator MPS
NY	64500925	Historic and Engineering Resources of the Chenango Canal MPS
NY	64501060	Hydraulics/Larkin Neighborhood, Buffalo, Erie County, NY
NY	64500965	Industrial Development in the Oaks Creek Valley, Otsego County, New York MPS
NY	64501069	Industrial Resources in the City of Syracuse, Onondaga County, NY MPS
NY	64000566	Interborough Rapid Transit Subway Control Houses TR
NY	64500900	New York City Subway System MPS
NY	64500825	Red Potsdam Sandstone Resources Taken from Raquette River Quarries MPS
OH	64500475	Canal Winchester MPS
OH	64500802	Canal, Railroad, and Industrial Resources of the Village of Clinton/Warwick, Ohio MPS

State or Territory	Reference Number	Resource Name
OH	64500759	Gates Mills MPS
OH	64500478	Historic Mill-Related Resources of Delaware and Liberty Townships MPS
OH	64501068	Historic Resources of the Cincinnati Park and Parkway System 1817-1959
OH	64000640	Ohio and Erie Canal TR
OK	64000665	Clay Tile Grain Elevators in Northwestern Oklahoma TR
OK	64500491	Energy-Related Properties in Northeastern Oklahoma MPS
OK	64500492	Grain Storage and Processing Facilities in Western Oklahoma MPS
OK	64000690	WPA Public Bldgs., Recreational Facilities and Cemetery Improvements in Southeastern Oklahoma, 1935--1943 TR
OK	64000691	WPA Public Bldgs., Recreational Facilities and Water Quality Improvements in Northwestern Oklahoma, 1935--1943 TR
OK	64500495	WPA Resources in Lincoln County MPS
OK	64000692	Woodframe Grain Elevators of Oklahoma Panhandle TR
OR	64500517	USDA Forest Service Administrative Buildings in Oregon and Washington Built by the CCC MPS
PA	64500521	Allegheny Portage Railroad MPS
PA	64500522	Allegheny River Navigation System MPS
PA	64500523	Aluminum Industry Resources of Southwestern Pennsylvania MPS
PA	64500524	Anthracite--Related Resources of Northeastern Pennsylvania MPS
PA	64500525	Bituminous Coal and Coke Resources of Pennsylvania MPS
PA	64000724	Emergency Conservation Work (ECW) Architecture in Pennsylvania State Parks: 1933-1942, TR
PA	64500531	Industrial Resources of Huntingdon County, 1780--1939 MPS
PA	64500532	Iron and Steel Resources of Pennsylvania MPS
PA	64500535	Oil Industry Resources in Western Pennsylvania MPS
PA	64000729	Pennsylvania Railroad Rolling Stock TR
PA	64500537	Railroad Resources of York County MPS
PR	64500995	New Deal Era Constructions in the Forest Reserves in Puerto Rico
PR	64501052	Rum Industry in Puerto Rico MPS
RI	64000756	Public Works and Utilities--Sewage Treatment Facilities in Providence, 1895--1935 TR
SC	64000770	Early Ironworks of Northwestern South Carolina TR
SC	64000771	Early Ironworks of Northwestern South Carolina TR (AD)
SC	64500573	Textile Mills designed by W.B. Smith Whaley MPS
SD	64500578	Federal Relief Construction in South Dakota MPS
TN	64500606	Iron Industry on the Western Highland Rim 1790s--1920s MPS
TN	64500607	Iron Industry on the Western Highland Rim 1790s--1920s MPS (AD)
TN	64500906	Lime Industry of Houston County, Tennessee
TN	64000818	Omohundro Waterworks System TR

State or Territory	Reference Number	Resource Name
TN	64000819	Omohundro Waterworks System TR (AD)
TN	64500614	Pre-TVA Hydroelectric Power Development in Tennessee MPS
TN	64000823	State Parks in Tennessee Built by the CCC and the WPA, 1934--1942, TR
TN	64500621	Transportation-Related Properties of Jackson MPS
TX	64000826	19th Century Pottery Kilns of Denton Co. TR
TX	64500632	Early Logging Industry in East Texas MPS
TX	64500633	Early Twentieth Century Logging Industry Historic Resources on the National Forests and Grasslands in Texas MPS
UT	64500664	Electric Power Plants of Utah MPS
UT	64000866	Mining Boom Era Houses TR
UT	64000871	Public Works Buildings TR
UT	64500669	Residences of Mining Boom Era Park City MPS
UT	64000875	Tintic Mining District MRA
VA	64501126	Virginia State Parks built by New Deal Programs MPS
VT	64500899	Hydroelectric Generating Facilities in Vermont MPS
WA	64500700	Grain Production Properties in Eastern Washington MPS
WA	64500703	Hydroelectric Power Plants in Washington State, 1890--1938 MPS
WA	64000908	Puget Sound Naval Shipyard Shore Facilities TR
WA	64500712	USDA Forest Service Administrative Buildings in Oregon and Washington Built by the CCC MPS
WI	64000914	19th Century Grist and Flouring Mills of Sheboygan County TR
WI	64500774	Historic Logging Industry in State Region 2 and the Nicolet NF MPS
WI	64000942	Lime Kilns of Waukesha County TR
WI	64000944	Mills of Grafton TR
WI	64501057	Milwaukee County Parkway System
WI	64500721	Racine Workers' Cottages MPS
WI	64000948	Speculative Commercial Blocks of Superior's Boom Period 1888--1892 TR
WI	64000953	Water Works Structures of Rock County - 19th Century TR
WV	64500726	Coal Company Stores in McDowell County MPS
WV	64501099	New Deal Resources in West Virginia State Parks and Forests MPS
WY	64500736	Depression-Era USDA Forest Service Administrative Complexes on Medicine Bow NF MPS
WY	64500864	Industrial Facilities Served by Railroad in Cheyenne, Wyoming MPS
WY	64501124	Motor Courts and Motels in Wyoming MPS
WY	64501096	Ranches, Farms, and Homesteads in Wyoming, 1860-1960 MPS